

THE
MEDICAL REPOSITORY.

VOL. III.

NEW SERIES.

No. 2.

ORIGINAL ESSAYS.

ESSAYS and PAPERS on the WINTER EPIDEMIC of 1812, 1813, 1814, and 1815, in different Parts of the United States.

(Continued from page 33, and concluded.)

Extract from an ESSAY on the EPIDEMIC of the Winters of 1813 and 1814, in Talbot and Queen Ann's Counties, in the State of Maryland. By ENNALLS MARTIN, M. B. Baltimore, 1815.

IT does not appear, from any observations which I was capable of making, that there were any premonitory signs or symptoms which indicated an approaching attack of this disease. Patients were seized at all times of the day, but more generally, as in ordinary pleurisy, sleeping in bed, while the least insensible to external stimuli, and in a state of the most fatal security! As in all other fevers, it commenced with an ague, seldom violent, but of protracted duration; and though the patient might soon cease complaining of sensations of cold, the external surface of the body had in the most dangerous cases a cold feel; and in almost all, while the other parts might be warm to the touch, and the face flushed, the extremities, more especially the feet, would have an icy feel, if some warm applications had not been made to them. Indeed, in the most advanced stage, it would most generally seem as if the patient was insensible to

the cold, complaining at the same time of great *internal heat*. If he were asked if his feet were cold, the answer, nine times out of ten, would be in the negative. If hot applications were made to the feet and removed, they would soon become cold again. In fact, it was difficult to determine whether the cold stage, in the most violent cases, was even completely succeeded by the hot stage, until symptoms of recovery were actually apparent.

The face was flushed from the very beginning, though most other parts of the body were cold; and the head, in every type of the disease, was most violently complained of, if the patient complained of any thing, inso-much so, that the epidemic very early in the season, got the name of the "*head complaint*;" for though he might have a pain in the side, it was rarely he complained of it, unless interrogated concerning it.

If a cough and common cold had not been hanging upon him before the formation of the disease, it was sure to come on very shortly afterwards; when he would sometimes complain of pain in the thorax, though very seldom, unless questioned on the occasion, and requested to make a full inspiration.

The respiration was, generally speaking, free and easy, from the commencement of the attack, unless, as was too often the case, the economy of nature was disturbed by some improper *interference*, which might, and did, in many instances, bring on an "*effusion of serum*" in the lungs, before a determination could be made to the skin, when it became quick and laborious, and a sure presage of a fatal termination.

Expectoration of mucus from the lungs was among the first symptoms of their affection, and was rarely copious, except when it was bloody, which was an unfavourable sign, though not a fatal one, as in the case of *quick respiration*.

The pulse was frequently full, even when the cold had not been completely succeeded by the hot stage, and was sometimes feeble, when the external surface was rather warm. It could never be said to be hard, and very seldom quick. Very frequently, if other symptoms were not attended to, it might be said to be a healthy one from the feel. In fact, when the epidemic began to be

better understood. it ceased with me to be a sure guide in the treatment of topical affections of the lungs, and every other type of disease ; though it had been almost unerring in its indications, in hundreds and thousands of cases before this period. For when it would seem to indicate in some cases, from its fulness, the loss of 2½ oz. of blood, it would begin to intermit before three ounces were taken away, and not unfrequently cease to beat before five were abstracted.

The blood never flowed freely, and was invariably of a dark livid colour, and yet had very much the appearance of pleuritic blood in former times, which had been considered as a test of violent "*inflammation.*" I have known it stand for hours, without separating into crassamentum and serum; fully demonstrating, to my view of the subject, that it had not acquired, in its passage through the lungs, a sufficient proportion of that vital principle from the atmosphere, which could make it active, and properly vital.

The skin, in some violent cases, would be cold ; but in others scorching hot ; while the feet and hands, as has been before observed, would be cold. At other times, it would feel soft and cool, while the patient would complain of great INTERNAL HEAT. It would feel warm, while covered by bed clothes ; but, upon the least exposure, it would become cool, and put on the appearance of *goose flesh*, when the surrounding atmosphere was rather of a moderate temperature.

The stomach was rarely disordered at any stage of the disease, but on some occasions, and in some instances, it became extremely irritable, when considerable quantities of bile and tough mucus were ejected, which I never have considered as an indication of any thing unpromising, though it might sometimes have proved troublesome.

The *bowels* were disposed, in most cases, to remain quiescent, unless disturbed by improper treatment ; from whence as much *mischief* might, and too often did arise, as from *bleeding*. The one could be instantly restrained, the other was generally beyond controul.

The urine was, in almost every case, free, and often copious : but could not be considered, as in ordinary pleu-

ris, a favourable sign. In fact, there was neither sign nor symptom, from whence any thing favourable could not be prognosticated, except a warm moisture of the whole body, which was seldom excited by *nature*, but very readily by art, at the *earliest commencement of the disease, but with great difficulty afterwards.*

In whatever type of disease this epidemic fever might have appeared, I think I can assert, without fear of contradiction, that the above description might be applied to it; with the exception, nevertheless, of the symptoms peculiar to affections of the lungs; and adding, at the same time, those which are peculiar to the several parts or organs of the body, when disordered; so that it may be said of this epidemic, what Sydenham has said of the epidemics of his day, viz. that "all other diseases partook of the nature of the epidemics." for this plain and obvious reason, they all proceeded from the same remote cause.

Communication of Dr. JOSEPH TRENT, as published in the National Intelligencer, at Washington, January 19, 1815.

The force of the disease is sometimes spent upon the fauces and throat, producing an inflammatory quinsey, which threatens and has occasioned suffocation in from fifteen to eighteen hours from the attack. This form of the disease (as well as that attacking the head and breast) is introduced by shivering, headache, stuffing of the nose, hoarseness, and a spitting of white frothy mucus from the throat, with very little cough, and a breathlessness. The patients rise up from bed, declaring they must choke, complain of giddiness and faintness, and sometimes puke. The tumefaction of the throat is not always great enough to account for those alarming suffocating feelings. The muscles of respiration, and particularly of the glottis, must be spasmodically affected. One of these paroxysms could not be survived many minutes. Neither the breathing nor cough resembles

oroup. Very large glandular swellings sometimes occur about the neck.

From a congestion, or accumulation of blood in the vessels of the throat, the inflammation looks remarkably dark, and is coated in some parts with inspissated mucus, or coagulated lymph, which gives a most alarming aspect to the disease. It is these appearances which have caused it to be called Putrid Sore Throat. Fatal mistake! for the treatment proper in the latter disease, urges the inflammation and swelling of the former to suffocation. These white crusts do not conceal ulcers, nor is the breath offensive, as in putrid sore throat. Instead of red pepper and blue-stone gargles and washes, found so useful in the putrid sore throat, the mildest and most assuasive applications are required in the prevailing epidemic. An infusion of red rose leaves, with a little alum in it; lead-water, or barley-water slightly acidulated with elixir of vitriol or muriatic acid, make the best kind of gargles, which should never be applied with a mop.

For the disease, affecting either the head, breast, or throat, the general indications of cure are—1st. To moderate the violence of the fever at the beginning, and thereby to reduce the inflammation, and prevent those fatal effusions of coagulating lymph on the brain, lungs, and throat. 2d. To excite and continue a moderate perspiration. And, 3d. To restore vigour to the weakened system.

The first indication is performed by blood-letting at the beginning, regulated by the state of the pulse, and the violence of the inflammatory symptoms, which seldom last longer than two or three days. To bleed, after this stage, is to destroy the patient, or to plunge him into a state of lingering, typhoid debility. As a few drops of blood from the nose have often relieved the head, might not a division of the temporal artery, or opening of the jugular vein, be the best mode of taking blood in the violent head and throat cases? Vomiting and purging by ipecacuanha, or tartar emetic and calomel combined, should next be used; and a large blister laid between the shoulders, or around the throat. These three remedies, promptly and boldly applied, seldom fail

to disarm the disease of all its terror. A person in the greatest extremity of suffering and of apparent danger, has been up and about in a few days, by the use of these remedies only. The second indication is performed by giving tartar emetic, or James's powder, in broken doses, and using wine whey, sage tea, or any mild tepid drink. A combination of tartar emetic one half a grain, opium one sixth, calomel and camphor each two grains, every four or six hours, is a most efficient medicine; it seldom fails to excite perspiration, and, if continued in consequence of the obstinacy of the fever, will produce a salivation; which, with blistering, is the only remedy likely to obviate the fatal effects of effusion. The last indication is to remove weakness, which is best done by a light nutritive diet and exercise.*

Extract from a Paper of THOMAS P. HEREFORD, Middlebury, Loudoun County, Virginia, published in the National Intelligencer, April 10, 1815.

In the district in which I live, the disease appeared under such a variety of forms, that it acquired almost as many names—such as pneumonia vera, pneumonia notha, pneumonia biliosa, pneumonia typhoides, bilious fever, typhus fever, and catarrhal fever, just as it happened to take on either of these dresses, from changes in the weather, or the difference of season, or of the exciting occasional causes. These different names naturally producing a variety of associations in the minds of physicians, led to various and multiplied modes of treatment. Hence, upon the views of the practitioner seemed to depend the important result of life or death; and success could only attend the labours of him who had the best and most legitimate pathological views of this terrible disease. Many were lost before the judgment was corrected, or the new and malignant character of the disease suspected. But we have the satisfaction of saying,

* The reader may recollect that this is an additional paper to one of the same author in our preceding volume, p. 216.

that the number of deaths were comparatively few after the eyes of the physician were opened, and heaven had aroused his slumbering and benighted intellect to a sense of its danger and its nature. Physicians, after viewing it so differently, at length united in one opinion, that it was a disease of the typhus kind, but one, perhaps, entirely new to the United States.

It has, here, generally commenced with high inflammatory symptoms, whether it spent its force upon the lungs, the brain, or upon the throat ; one or all these parts being affected in every case, and in a short time taking on the typhoid dress. In the spring, and part of the summer of the last year, I bled, in almost every case that came under my care, with complete success. At that time the reports against the lancet had not spread so far and wide ; neither was the disease altogether so malignant as it has been since. But at length those reports, and a few accidents, so confirmed the prejudices of the public against blood-letting, that it was used extremely seldom during the last winter, notwithstanding however urgent the demand might have been for it. Many lives might have been saved by its cautious use, I have no doubt. But, at the same time that I believe this, I am far from supposing that it would have been proper in most cases ; in many it could not have been borne, and would have been productive, as it sometimes was, of immediate death. Therefore the management of this operation required great caution ; for venesection, boldly and indiscriminately resorted to, upon the supposition of the disease being of a highly inflammatory nature, as well as a total abandonment of it from contrary views, produced the most dreadful and fatal consequences. In this disease, emetics had almost universal application ; and when blood-letting was inadmissible, they were always the first remedy. They were composed of calomel and tartar, in pretty large doses. These never failed to produce copious evacuations of bile from the stomach and bowels. The disease was sometimes carried off in this way ; but the violence of the symptoms continuing, they were repeated several times, and the bowels kept steadily open by calomel and jalap, and the neutral salts. In the exacerbation of fever, the antimonial preparations were

resorted to with decided advantage; such as tartar emetic and James's powder, in small and repeated doses, till sweating, purging, or nausea, was induced. The pains of the breast and head, if not removed by these means, were attacked by large blisters to these parts. A cough was, in almost every case, an urgent and troublesome symptom. It was relieved by mucilaginous and anodyne expectorants, and I found none better than Barton's mixture, a medicine well known. The preparations of squills, and inhaling the steams of warm vinegar and water, were also useful. A vomiting was sometimes a distressing symptom. Wherever this continued, notwithstanding the stomach had been cleansed, I found a cold infusion of Columbo root and canella alba highly efficient in removing it. The common saline draughts were seldom useful. A blister over the region of the stomach was in some cases employed. The anginose affection, or the sore throat, was removed by emetics, detergent gargles, and mustard poultices or blisters.

In the paroxysm of fever which occurred every day, and sometimes twice a day, cold bathing was frequently used with advantage. Its effects were to lessen the distressing heat of the skin, to tranquillize the living actions, to relieve pain, and to refresh and revive the unfortunate sufferer.

If the symptoms, notwithstanding all those remedies had been employed, continued obstinate and unyielding, with evident marks of that peculiar state of nervous and muscular excitement which always indicated a change of type in the disease, I resorted, without hesitation, to mercury as the anchor of hope. I here determined, in every case where tremours and other symptoms indicating typhoid tendency came on, to impart to the system as quick as possible the mercurial impression. I gave, in this state of the fever, calomel combined either with camphor, squills, or volatile alkali, in doses suited to the age and condition of the patient, every four hours, till ptyalism was produced. As soon as the system became obedient to the mercurial excitement, all the symptoms yielded, and no case of death occurred after this took place. I had nearly forgotten to mention the polygala senega as an useful remedy in this state of the

fever. It not only acted as a sudorific, but performed the office of an expectorant in the most happy manner. Blisters were applied to the extremities to remove morbid excitement from the centre of the system. When the system showed a rapid disposition to sink, recourse was then had to the most powerful stimuli. The convalescence was confirmed and quickened by the bitter tonics and mineral acids.

I have thus given the outlines of my practice in this epidemic, and thank the Almighty God that it has generally been attended with success.

*Extract from a Communication to the Editors, by Dr.
F. SIMPSON DAVIS. Milledgeville, Georgia, April 28,
1815.*

A disease not very dissimilar to that which now prevails with much fatality in some of the northern states, has recently made its appearance in this vicinity.

The characteristic signs of the epidemic, as it appeared in Maryland and Virginia, were a dry and parched skin, foul tongue, pulse frequent, hard, and strong; no appetite, considerable thirst, sore throat, and not unfrequently with hoarseness and a great degree of lassitude. These symptoms constitute what Dr. Trent, of Richmond, calls synochus, or the winter form of the disease; which he tells us prevailed sporadically for eighteen months, and became epidemical. In the last week I visited several patients who evidently laboured under a synocha, with considerable glandular affection of the throat; and from its having pervaded whole families, I am induced to think it will, if it has not already, become epidemical. The disease makes its attack not by slow insidious approaches, but in a manner calculated to admonish us that the most prompt and energetic remedies should be, without loss of time, resorted to. In addition to the symptoms above recited, the patient will be found to labour under suppression of perspiration, a burning sensation of the throat and stricture of the chest; and, lastly, a difficulty of respiration.

approaching to suffocation. The organic affection is extensive; commencing at the velum palatinum, or the cavity behind the tongue, and descending, embraces the larynx, trachea, bronchiæ, and perhaps the vesiculæ pulmonales. To the constriction of the internal vessels of the trachea, and the consequent increased secretion of mucus, I attribute the suffocating state of this disorder; and not, as Dr. Trent supposes, to the effusion of lymph and congestion of blood on the lungs: for we find that as soon as the mucus is eradicated from the trachea, the difficulty of respiration is removed. Hence the absolute necessity of emetics. Bleeding is also necessary in every case; but more particularly so in those cases in which there is much tension of the blood vessels. The redundant mucus being evacuated, the patient, after being bled, should be put in the warm bath, where he should remain for fifteen or twenty minutes. Tinct. opii. camphorata, or spt. ætheris nitrosi, rubbed externally on the breasts, I have used to much advantage. Their stimulant action on the diaphragm, and on the intercostal muscles, tend much to mitigate laboured respiration.

An Account of the Epidemic Fever which prevailed in the South of Virginia, in the Winter of 1815. By Dr. JOHN G. SCOTT, of Lunenburg, Virginia: Communicated to the Editors.

The summer and autumn of 1813 were remarkably healthy, except that catarrhs (as was supposed) frequently prevailed. But as soon as the hard frosts of winter succeeded the chilly winds of autumn, the health of the inhabitants experienced a very considerable change. Few families escaped sickness more or less.

The first notices of the approaching attack were sore throat and hoarseness, in quick succession. The latter became very troublesome to the patient in one or two minutes after the first sensation of its existence. In a few hours an incessant cough, accompanied with all the symptoms of catarrh, succeeded; to which was added, an acute pain in the left side, in the region of the spleen, and

in the left shoulder. The pulse, sometimes hard and full, but often soft and full, never very frequent. The febrile symptoms intermitted, and most frequently remitted a few hours before day. Delirium often attended the paroxysms after the first or second day, with subsultus tendinum. The practitioners of physic who were in favour of excessive bleedings, did their patients an irreparable injury when these symptoms first appeared with violence, for the pulse was thereby so reduced as to make it almost impossible to raise it again.

A moderate bleeding at first, a cathartic of calomel and jalap, or calomel alone, afterwards lae ammoniac, combined with antimon. tartarizatum, and thebaic tincture: the mixture proportioned to the symptoms and constitution of the patient, together with one or more epispastics, have generally been sufficient to remove the disease, and the patient has recovered in a short time. It is worthy of remark, that many physicians have testified, that whenever the mouth exhibited the operation of mercury, either by accident or design, the patient recovered immediately.

In the spring of 1814, when the sun-beams dispelled the gloomy aspect of winter, the symptoms of this disease, heretofore formidable, dwindled into the common symptoms of catarrh; and the physician's aid was dispensed with as unnecessary.

In the autumn of this year, the symptoms took their well known type in the preceding winter; and as the winter approached, they increased in virulence. To the sore throat were sometimes added swellings of the neck, and a sensible difficulty of respiration, creating apprehensions of suffocation, and which too often ended fatally on or before the fifth day, sometimes the second or third.

This winter the pulse generally continued full, or sharp, to the last moment, notwithstanding the use of venesection, cathartics, sudorifics, and epispastics; and if the patient was bled at any period of the disease, a calm sensible mind continued to the last. A diarrhœa frequently made its appearance, sooner or later, which was soon succeeded by a dark tongue and mouth. From these symptoms the patient seldom recovered. They

continued to increase in violence and consequent mortality, spreading fear and alarm, as the epidemic extended far and wide over the country, showing plausible characters of its being contagious, which opinion was imbibed by some of the faculty.

Amidst these gloomy prospects, and in the month of February, the symptoms were somewhat altered: first, a dripping of lachryma from the nose, and pain across the forehead; then aching and chilliness in the muscles generally; stupor, eyes bleared, and sometimes inflamed: pain in the eyes, which often impaired the vision, and often one of the eyelids swelled enormously into a reddish looking watery blab; the pulse frequent, quick, and low; dry skin; a great prostration of strength; and sometimes puking, when nothing but phlegm was discharged. In some few cases bile was emitted. If in these cases, the patient was bled freely to give him breath, alas! the pulse sunk, never to rise again; all the stimulants applied, internally or externally, could never arrest its progress to certain death. As for myself, having heard of the effects of blood-letting before the disease reached my neighbourhood, (as it progressed southerly) I determined to profit by the errors of others. When I saw the symptoms, its appearance caused me so much to think of the second stage of yellow fever, that I determined to try calomel and jalap; dose after dose was given, until the patient (if an adult) generally took from twenty-five to thirty grains of calomel, and from thirty to forty grains of jalap. This was by no means an uncommon dose, and yet the operation would be moderate. I once gave a negro man, who had taken six grains of emetic tartar in the forenoon, forty-five grains calomel, and eighty grains jalap, in the afternoon, and it purged him moderately three times. Some physicians of my acquaintance had previously failed, and others did subsequently fail, on the use of other evacuants; some preferred calomel alone, others emetic tartar and calomel; some emetic tartar alone, others again emetic tartar and Glauber's salt, &c. all and each given in excessive quantities, with moderate effects. I am led to believe, that, of all these, calomel and tartar emetic combined is the most efficacious.

The change of the symptoms, after the operation of an emetic or cathartic, was as follows : The pulse, from being quick or frequent, became full, soft, and slow; the stupor and pained muscles were perceived no more; the dry skin became moist, and the countenance exchanged its ghastly look for an aspect of cheerfulness. A day or two after, the pulse would begin to sink; and, if preventives were not administered in good time, did sink to death. The preventives used with the best success, were polygala senega, intended to stimulate and determine to the surface; to restore, or keep up the tone of the system, eort. Peruv. camphor, columbo, &c. &c. To stimulate the excitement, wine, spirits, opium, and epispastics; warm fomentations to local pains and swellings, which were frequent. The exhibition of these and similar things, generally kept the pulse free, soft, and regular, with a moist skin; and the patient generally recovered in a few days, yet exceedingly liable to relapse. Some irregular symptoms appeared in the course of the disease. Sometimes, from the first attack, there was a clammy moist skin; so much so, that, on removing the finger from the pulse, the skin of the patient's arm would stick to the finger. This symptom was always accompanied with a heavy cadaverous smell, from which few, if any, recovered. Another irregularity was a very excruciating pain in the back of the head and neck; sometimes on both sides, but generally on one. Cases of this kind mostly ended in phrenitis, and in death. Epispastics, applied and repeated to this pain, appeared to have no effect; neither did hot or cold applications; but, as the other symptoms retreated, this would follow the last in the train.

The warm weather coming on this spring, has changed the type again, to, or near, its summer mildness; yet it is severe enough in some cases, if neglected, to end in death.

Communication on PULMONARY CONSUMPTION, and the Use of DIGITALIS: Read before the Medical Society of the County of New-York, at their Anniversary Meeting, July 3. 1815. By WILLIAM HAMERSLEY, M. D. Professor of Clinical Practice of Medicine in the College of Physicians and Surgeons, &c.

TO fulfil the duty imposed upon me as a member of this Society, and to arrest its attention to the history of pulmonary diseases, which may be successfully treated in those stages when they have been generally considered as confirmed, and beyond the reach of medical prescription, the two following cases are presented; they occurred in the clinical practice of the New-York Hospital, according to their respective dates, and were, therefore, the subject of remark to the students who attended at these periods. Edward Rogers, a British seaman, aged twenty-four years, was admitted early in December, 1807. He had, on his first admission, a fever irregularly intermittent, with considerable affection of the chest; was much emaciated, had a loose cough, and expectorated a puriform fluid. The cough and the expectoration alternated with each other; his pulse was very rapid, his cheeks were flushed, and every symptom of hectic fever characterising an advanced stage of pulmonary phthisis, rapidly supervened. He was put upon the use of the lichen islandicus, or Iceland moss, as a diet, which he took in the usual form of decoction, mixed with an equal portion of cow's milk. To diminish the frequency of his pulse, and abate the violence of the hectic symptoms, he was directed to take of the tincture of foxglove, according to the prescription contained in the *Zoonomia* of Darwin, twenty drops four times a day. In the course of a few days the symptoms of his disease were evidently mitigated; his pulse became less frequent and more full; he slept with more composure, and his cough was less severe. To allay the latter, he was, at this time, in the use of the common spermaceti mixture. On the 15th day of this month his situation was reported to be evidently more favourable; but, on the 22d, it was remarked that he had a regular chill about

noon, to which succeeded very profuse sweating. The expectoration evidently purulent, but not very copious. On the 26th the chill recurred daily, but at irregular periods, lasting sometimes for two successive hours. He had copious diarrhœa, accompanied with the discharge of purulent and bloody matter. To check the diarrhœa, he was directed to take a sudorific anodyne draught at the accession of the cold fit, and to take small potions of the chalk mixture, also united with laudanum, as often as this symptom recurred. On the 2d day of January, 1808, it was observed that, after taking the sudorific anodyne draught, the chill became less severe as the diarrhœa became less frequent. On the 4th, the chill recurred at a more protracted period, with the same favourable occurrences as in the preceding report. His entire nourishment now consisted of the decoction of the Iceland moss and milk. The result of daily observations on the state of the pulse, from the 15th day of December, 1807, to the 15th day of January, 1808, were a gradual diminution of their frequency from 110 to 100, and afterwards down to 80 and 75 beats in the minute.

From the 4th to the 15th day of January there appeared to be no great change of symptoms, except that the chill became less severe, and the diarrhœa less frequent. This change was probably effected by increasing the quantity of laudanum in the sudorific draught. Towards the close of this month, the pulmonary symptoms were most evidently abated; but the patient being extremely exhausted, he was allowed a pint of wine daily, to be taken at his discretion. From the 1st to the 3d day of February he had rather more cough, but experienced, in other respects, no very material alterations. On the 5th, the principal symptom was slight cough, with some expectoration. The chills invaded about six o'clock in the evening, but were of very short duration. On the 8th, the chills were stationary. On the 12th the chills became very troublesome, notwithstanding the repeated use of the sudorific anodyne draught at their invasion. The state of his stomach had caused him to reject the lichen and milk for some time past, to the use of which he was now enabled to return. From the 15th to the 20th of this month the chill recurred, but in a

very slight degree. On the 22d, the symptoms were stationary. There was no chill on the 23d or 24th, nor was he annoyed by any unpleasant feelings in the stomach or bowels. The sweatings had now ceased. His knees having become rigid from long continuance in one posture, he was directed to the use of an ointment composed of emetic tartar and hog's lard in the proportion of a dram of the former to an ounce of the latter, to be applied to the rigid parts. The sudorific draughts were now only used occasionally. On the 26th, he remained free from chill and from diarrhœa, but experienced some nausea, which he attributed to the use of the ointment. On the 29th, the stomach had become more composed, and he could now extend his limbs with greater freedom. The chills recurred in a very slight degree, but, in every other respect, he was materially amended. Having discontinued my regular attendance at the Hospital on the first day of March, I visited this patient occasionally during that and the succeeding month; I found him still remaining in the house, but in a state of perfect convalescence, having pursued the same mode of treatment. He was retained there for some time afterwards, but dismissed in the course of the summer, entirely cured.

The other case, is that of the girl, Rosanna Dowling, about seventeen or eighteen years old, a native of this city. She was admitted into the New-York Hospital on the 27th day of October, 1813. She had rheumatism, and strongly marked symptoms of pulmonary phthisis, which were of several months duration. She had been my private patient, during the preceding summer, with the rheumatic affection, which had been induced by exposure to cold at the period of her menstruation. At her reception, the complaints were aggravated, particularly the pulmonary affection; she had constant and violent pain in the chest, increased by coughing, expectorating, in the course of one day, a considerable quantity of mucus, tinged with blood. She bled frequently at the nose, and had regular paroxysms of hysteria towards evening. Her pulse was small and frequent; her skin hot and dry; her tongue furred, her respiration hurried and oppressed; her bowels constipated. To alleviate the violence of her rheumatic complaints, she was put upon the use of the

anti-rheumatic pill, composed of the following remedies, according to a regulated formula of the house: ℞ G. Guaiac. ʒ i. camphor, ʒ ss. calomel, ʒ ss. tartar emetic, ʒ ij. sapon. Castil. ʒ j. M. div. in pil. cxxx. One of these pills was taken three times a day, occasionally adding aloes in a sufficient quantity to produce a gentle cathartic effect. This, together with a variety of other remedies, were directed, without producing any alleviation of symptoms. In addition to the other complaints, she now laboured under a suppression of the catamenia, its regular discharge having never recurred since the first attack of her disease. A decoction of the ergot, to be taken daily, in the quantity of eight ounces, was at this time prescribed.

On the 18th day of November, upon counting the number of pulsations at the wrist, they were found to exceed one hundred and twenty in a minute; nevertheless, her skin was temperate; her cough was appeased by an anodyne draught taken at bed-time; she was directed to use a milk diet, with a decoction of the moss, as in the preceding case; when the lichen could not be obtained, to make use of the bark of the slippery elm, (the *ulmus Americana* of botanists.) from the quantity of mucilage which it contains; and, at the same time, she was directed to take of Darwin's saturated tincture of foxglove, twenty drops, three times a day.

On the 25th the pulse was yet very rapid, but without any sensible heat of the skin, which was rather moist than otherwise. She still continued to be much harassed by coughing, for which she now took a grain of solid opium at night, and the quantity of the saturated tincture of foxglove was also increased. On the 30th the pulse was still rising, one hundred and twenty beats in the minute. The same diet of milk, with the mucilage of the elm, was continued, and constituted almost her entire nourishment. She was at this time exceedingly emaciated and enfeebled, but rested evidently with more composure. On the 2d day of December her pulse became less frequent, and she had slight vertigo, but no nausea or unusual discharges of urine. Her general health appeared to be improved. On the 7th and on the 9th the pulse

was yet rapid; she had fewer feverish symptoms, and with evident amendment in other respects. From this period to the 23d, the 28th, and the 30th, the pulse varied, on the average making about one hundred beats in the minute; and, on the last day, the report states that she was sensibly improved. On the 6th day of January, 1814, she continued to improve. She now took fifty drops of laudanum every evening in peppermint water, which ensured her more comfortable rest, with a gradual amendment of all her pulmonary affections. In this course she persisted during the remaining part of this month, when her only remedies were the anodyne at night, and the medicated drink during the day. On the 1st day of February she was evidently amended, and on the 8th she was reported to be convalescent. On the 24th she was apparently free from pulmonary complaints. She was retained in the house during the month of March, on account of the unsettled state of the weather, and was shortly afterwards dismissed *cured*.

I have had frequent opportunities of seeing this girl since she left the hospital; her pulmonary affections have never recurred under any form whatever; but it is worthy of notice, that although she now appears to be relieved of every kind of pulmonary disease, and to have regained good general health, yet there is a very unusual palpitation of the heart, which has frequently attracted the notice of her friends, and appears to have succeeded to the affection of the lungs. I have not ascertained whether the catamenia have returned.

OBSERVATIONS on TETANUS; to which is subjoined a Case of LOCK-JAW, successfully treated with Laudanum. By JABEZ W. HEUSTIS, M. D. late Surgeon in the Army of the United States.

TETANUS, which consists in an involuntary and almost constant contraction of all or several of the muscles, has generally been considered as one of the most fatal diseases to which mankind are liable.

When the disease has arisen from a wound or puncture, it has generally been observed to denote a more unfavourable prognosis than when it has arisen from exposure to cold;* that when it has come on suddenly, and advanced rapidly, it is more dangerous than when more slow in its progress.† Accordingly, in the majority of instances, it has terminated in the death of the patient. This termination is most apt to take place before the seventh day; the patient generally expiring on the third or fourth.‡ When the patient survives the fourth, seventh, or fourteenth day, the disease is almost always curable. When he survives the fourth day, however, he is not altogether free from danger: the body being rendered very irritable, as well by the causes that have produced it, as by the continuance of the disease itself, the patient is liable to fresh attacks of spasms.

As predisposing causes of tetanus, we may reckon all those that produce an irritable state of the system; which state may, therefore, be considered as affording the predisposition to this disease. It occurs most frequently in hot climates, among hard working negroes, who, by going barefooted, frequently suffer a puncture and laceration of the plantar aponeurosis; and persons debilitated by fatiguing labours, and want of proper nourishment; or in those of higher rank, who have enfeebled their constitutions by intemperance and vice.§

That irritability, as connected with debility, should lay the foundation for spasmodic affections, we have only to turn our attention to a few cases of morbid action, which ordinarily fall within the circle of our observation, for satisfactory testimony: witness the convulsions of infants, the trismus nascentium, and the spasms and convulsions of hysterical women.

It seems to be from the sudden, violent, and exhausting exercise, that tetanus more frequently occurs after

* Hippocrates says, that a spasm happening after a wound is mortal. Aph. ii. sect. 5. And Dr. Moseley says, he never saved a patient who had complete tetanus after an operation. Trop. Dis. p. 481.

† Chalmers's London Med. Obs. & Inq. vol. i. p. 92. Cullen's Practice, p. 398.

‡ Hillary's Observations, p. 226.

§ Hillary's Observations, p. 257. Compct, &c.

wounds received in battle than at any other time.* It appears to be from this circumstance also, that those painful cramps in the muscles of the thighs and legs are experienced after a state of fatigue induced by long walking or swimming. The tetanus dolorificus, painful cramp, is a kind of spasm that frequently attacks the calf of the leg, or muscles of the toe; it often succeeds paroxysms of the gout, and appears towards the end of violent diarrhoea, and from indigestion, and from acid diet, cold, fatigue; when some people get the cramp in the extensor muscles of the toe, after walking down hill, and in those of the calf of the leg, after walking up a steep eminence.† We may further observe, that, in typhus fever, wherein the patient is debilitated, and in which a preternatural degree of irritability shows itself, by an aversion to light, noise, &c. subsultus tendinum, and occasionally more considerable spasms, take place. It has been even remarked, that, in some cases of malignant fevers, towards their fatal termination, this spasmodic affection has been so considerable, as to resemble the ordinary appearance of tetanus from other causes.‡

In like manner, the debility and irritability attendant upon certain morbid derangement of the constitution, as obstructed menstruation, too copious evacuations, especially such as happen in cholera morbus, retrocedent gout and exanthemata, putrid fever, bilious remitting fever, parturition, and worms, are among the circumstances favourable for the production of tetanus. Hysteria, hypochondriasis, and chorea, have also, in the excess of their spasmodic affections, on some occasions, emulated the milder symptoms of tetanus, while, at the same time, they have retained their own generic character.

It having been observed, that tetanus seems not unfrequently to attack the athletic and robust, more especially in northern climates, a query has been offered, whether this, and the opposite condition of the system which has been mentioned, might not unite in producing the same effect?§ But the reason why, in some instances, it attacks

* Rush's Medical Observations and Inquiries, vol. i.

† Darwin's Zoonomia, vol. ii.

‡ Vogle de Cog. et. Cur. Morb.

§ Richerand's Physiology—on Temperaments.

those of a robust constitution, may, I think, be explained by the fact, that men of this description are, from the very nature of their occupations, most liable to accidents, to punctured and lacerated wounds, and contusions, which prove the exciting causes of tetanus: and this effect is produced, not on account of the greater degree of irritability of such persons, but because the injury inflicted was sufficient to excite the disease in any constitution. Further, it is not unreasonable to suppose that writers may have fallen into an error, in mistaking the sanguine temperament, where irritability abounds, and a state of plethora and obesity, for robust and vigorous constitutions. It is a circumstance of common observation, that the plethora of pregnancy, which is also connected with an irritable state of the system, depending in a great degree upon debility, disposes the body to convulsive and spasmodic affections. Plethora and debility are likewise considered as the causes of other affections of this nature, as epilepsy, palpitation, angina pectoris, &c. The *modus operandi* of one of the exciting causes of tetanus particularly claims our attention, viz. irritating matter in the alimentary canal.

From the little connexion that apparently exists between the stomach and the muscles of voluntary motion, we might at first be led to imagine, that no derangement in the function, or vitiated condition of the contents of the first passages, could so immediately and violently affect the organs of motion, as they are observed to do in this disease. What nerve, or medium of communication, is there to announce the condition of the one class to the other? In this instance at least, it will be necessary to trace the medium of sympathy to its true source, the brain and spinal marrow.

An attempt to explain this sympathy, by referring it to the intervention of the intercostal nerves, must be attended with an unsatisfactory result; as it would be natural to suppose that all the parts, whose nerves are either derived from, or communicate with, the intercostals, would sympathize with each other. Nor will a reference to the eighth pair afford a more satisfactory explanation of this phenomenon.

An opinion, which to me appears the most satisfactory

with respect to sympathies, is, not to consider the nervous filaments as communicating and anastomosing with each other, as do the arteries or veins, but as remaining perfectly distinct, notwithstanding their numerous anastomoses and ganglia, from their origin in the brain or spinal marrow, to the place of their final distribution, approaching only to a state of juxta position.*

It is probably, in the manner above stated, that is, through the medium of the brain, that all the sympathies in the body, except those which Mr. Hunter calls continuous, are to be explained.

Although the medium by which the stomach holds communication with the other parts of the body be thus circuitous, it is no less subject to sympathize with the different and distant parts of the system, than those organs or parts of the body, the connexion between which, by means of nerves, is apparently more direct, are to sympathize with each other. Is it not from its consequence and importance that the stomach holds such extensive communication?† It is well known, that it is upon the healthy condition of this organ that that of every other portion of the system immediately depends.

Does it not, therefore, appear thus far, that the extent and degree of sympathy which different organs possess, depend upon their importance, and the pre-eminence which they hold with respect to the other parts of the animal economy, and not upon the quantity or particular distribution of the nerves which supply them? Is it not this that renders the stomach and bowels such a fruitful source of complaint? And is it not in this manner that a disordered constitution of those organs shows its effects

* See Whytt on Nervous Sympathy. Richerand's Physiology, &c.

† For cases serving to prove that a vitiated state of the contents of the stomach and bowels, and particularly of the bile, will give rise to the symptoms of tetanus, see Dr. Hamilton's Observations on Purgative Medicines. Though the trismus nascentium may be sometimes occasioned by the irritating quality of the retained meconium, yet, from the influence of wounds in giving rise to the symptoms of tetanus in other instances, and the occurrence of this disease before the ninth day, I am, in general, disposed to attribute it to the injury done to the umbilicus, by cutting the cord with a dull pair of scissors, and suffering the part to remain undressed, to ulcerate, and run into gangrene, as frequently happens among the negroes in the West-Indies, purely from carelessness and inattention.

in other parts of the body? It is well known that a sick stomach is always followed by a general weakness; and that the dry gripes often paralyze the muscles of the arms and limbs. A sick and disordered stomach generally produces a pain in the head, and vice versa. The spasmodic retraction of the muscles of the abdomen, attendant upon colic, is a circumstance of common observation. The jaw-fall, or trismus nascentium, is sometimes occasioned by the retention of the meconium.* Dr. Rush observes, that one of the remote causes of tetanus, viz. cold air, often shows the relationship of the muscles to the bowels, and the vicarious nature of disease in each of them. It often produces in the last, in the West-Indies, what the French physicians call a *crampe seche*, or, in other words, a tetanus in the bowels.†

It appears, therefore, that the stomach is the centre and primum mobile of sympathy; and it is not surprising that the ancients, imperfectly acquainted as they were with the animal economy, should have considered it as the seat of the soul, and that Van Helmont should have made it the throne of his *Archeus*, or presiding spirit. Hence it happens, that when the muscles of locomotion become debilitated from habitual fatigue, induced by hard labour and the heat of climate, the stomach and bowels participate in the affection; by which their function is deranged, the gastric fluid is not properly prepared, and the contents of the stomach and bowels, being deprived of their natural antiseptic, undergo, to a certain extent, the acetous and putrefactive processes of fermentation; so that, together with a vitiated bile, which, under such circumstances, is secreted in unusual quantity, an offensive colluvies is generated, which, under certain conditions of the constitution, may give rise to tetanus.

Cold is considered as one of the most frequent of the occasional causes of tetanus; inasmuch as persons previously debilitated and relaxed, become suddenly affect-

* It is said, that one tenth of all the children that are born in the West-Indies, die of this complaint. Rush's Medical Observations and Inquiries, vol. i. p. 536.

† Rush.

ed with this disease, from exposure to the cold, and humidity of the night air; or by the exposure of the body to a current of air, when overheated by severe exercise or labour. Even the stiff neck occasioned by being exposed to a stream of cold air, may be considered as a tendency to tetanus.

The manner in which cold operates in producing the symptoms of tetanus has never been satisfactorily explained; but it is probably by increasing the sensibility of the system to the causes of irritation already existing in the body. The operation of cold produces a greater or less degree of febrile affection of an inflammatory character; and as all inflammations increase the sensibility of the parts affected, so likewise, in this instance, the muscles are rendered preternaturally sensible to the existing irritation, whatever it may be, which before lay dormant in the body.

Concerning the proximate cause of tetanus, authors are, for the most part, silent; and the opinions which, by others, have been entertained respecting it, appear defective and unsatisfactory; being either the result of improbable conjecture, or too vague and indefinite to afford any clear and distinctive idea of this particular disease. "It is a great misfortune," says Dr. Moseley, "that we know so little of this disease more than its effects; that a complete rationale, hitherto unattempted, cannot be established for the treatment of it."* I hope, however, that the following view of tetanus will establish its cure upon the firm and systematic basis of pathological reason and induction.

In as much as it would be spending time to little or no purpose, to investigate the errors of the respective hypotheses of Hoffman, Darwin, and others, I shall briefly notice the opinion which to me appears the most probable, which is, that the proximate cause of tetanus consists in a peculiar morbid irritation applied to the affected muscles, which are thereby affected with morbid contraction. I say, this irritation is peculiar, because the disease itself is of a peculiar character; and it is

* Tropical Diseases, p. 500

therefore, to be presumed, that the irritation producing it, from whatever cause it may arise, is in every instance, of the same nature. I make use of the word *irritation*, as more appropriate in conveying an idea of the operation of the offending agent, though the term *morbid stimulus* might be employed with propriety. That I, therefore, may not be misunderstood in the phraseology, those who take exceptions to the former appellation may use the latter; for *irritation* and *stimulus*, in this instance, may be considered as synonymous.

Now, as an effect is the consequence of a cause, it is obvious that this morbid contraction of the muscles is the effect of some agent; and, from the cause of muscular contraction in general, I infer that this agent is a stimulus; for where there is no stimulus, there can be no muscular contraction.

We have seen what a diversity of causes conspire to produce the same effect, and therefore conclude that it is by a particular mode of operation common to all; but, in the investigation of this operation, the most scrutinizing search must fail of complete success; if, however, we are so far acquainted with it as to lead to a successful method of treatment, it is all that is absolutely necessary. We may say that the various classes of medicines of the *materia medica*, as emetics, cathartics, &c. produce their effects by a particular mode of operation common to all the medicines of the same class, and that the impressions which they produce are of a peculiar nature: but here our inquiry and research must end; for it is as difficult for us to trace the modes of operation performed by these agents, as it is the motion of the nervous fluid; or, to speak more properly, the secret influences of the nervous system. In saying, therefore, that the proximate cause of tetanus is a *peculiar irritation*, although the word *peculiar* implies that we are not particularly acquainted with its nature, at the same time it contradicts the idea of its being any thing but an irritation, or morbid stimulus.

It might be objected, that, because tetanus sometimes arises after the wound that produced it is entirely healed, it is not occasioned by any irritation or stimulus, because such irritation does not affect the sense of feeling, or

perception, so as to afford the idea to the patient of its existence. And will it, therefore, be affirmed, that there can be no irritation or stimulus unless it be felt? Is not an exostosis, or ossification in the brain, the source of irritation, when it occasions convulsions? Yet the patient never complained of pain in the head upon such occasions. Does not the impulse and distension of the warm blood stimulate the heart into contraction? Yet we perceive not the stimulus that produces it. When, in walking, our minds are engaged in the contemplation of a subject which employs our whole attention, are we conscious of the exercise of volition, by which the muscles of locomotion are stimulated to the performance of their function?

All the exciting causes of tetanus that have been noticed by authors, produce this irritation with more or less certainty and force, in proportion to the greater or less degree of irritability which has been induced. Dr. Rush, who has arrived nearly at the same conclusion, says, "It is immaterial whether the impression be made upon the intestines by a worm, upon the ear by an ungrateful noise,* upon the mind by a strong impression,† or upon the sole of the foot by a nail, it is alike communicated to the muscles, which, from their previous debility and irritability, are thrown into convulsions by it. In yielding to the impressions of irritation, they follow in their contractions, the order of their preceding debility."

The reason why the ordinary causes of tetanus do not produce fever, is the particular nature and application of these causes themselves: for, if a nerve, which is distributed to the muscles of voluntary motion, becomes affected with an impression disagreeable to its feelings, such an impression must extend itself, according to its force and intensity, through the medium of the brain and nerves, to the muscles of the same class, which become disordered and affected in the order of their susceptibility; and, inasmuch as such an impression, is not

* The grating noise produced by cutting with a knife upon a pewter plate, excited it in a servant, while he was waiting upon his master's table in London. It proved fatal in three days. Rush. Inq. and Obs. vol. i. p. 22, 23.

† Fear excited it in a soldier, who kneeled down to be shot. As supra.

calculated to affect the sanguiferous system, fever is not excited. In short, according to the doctrine of the humoral pathology, the manner in which a paroxysm of fever is excited, is by the direct application of a morbid stimulus to the heart and arteries, either from the retention of the excrementitious fluids alone, as in common synocha, or of certain morbid poisons together with these fluids, as in the various forms of malignant fever.

We perceive, then, that the nature of the irritations which more immediately produce tetanus and fever, are very different, and differently applied; that while, in the one case, the irritation is confined to the sanguiferous system, in the other, it is applied to the muscles of voluntary motion.

Inasmuch, therefore, as these two diseases have their seats more particularly in two different systems, it will not be difficult to conceive the existence of tetanus and fever in the same person, at the same time. Accordingly, such a combination of diseases sometimes happens; for, should the cold that proves the exciting cause of tetanus, at the same time have the effect of suppressing the excretions, fever would follow as an inevitable consequence. Such a coincidence, however, is not often met with; when it does happen, the symptoms of tetanus are aggravated by it. The reason why the symptoms of tetanus are increased in force and violence by the presence of synochal fever, is owing to the increased sensibility or irritability of the muscular fibres, produced by the general inflammatory diathesis of the system. That such a state increases the sensibility of the body to the particular stimulus or irritation which gives rise to the symptoms of tetanus, must be sufficiently evident. How insupportable to the inflamed eye is the common light! How exquisitely tender to the touch a boil! or local inflammation on the surface of the body, &c.? In the same manner is the irritability or sensibility of the muscles increased by a common inflammatory fever. It is, therefore, absolutely necessary that the different natures and causes of the two diseases, should be kept constantly in view, in order that we may rightly discriminate in their treatment, and give to each its proper share of attention; for the two morbid affections, though existing in the

same person, constitute two diseases, perfectly distinct in their natures, and require different and opposite modes of treatment. It is owing to a want of attention to this circumstance that has led to such a diversity of sentiment about the method of cure. Bleeding, for instance, having moderated the symptoms of tetanus in a few cases attended with fever, the pathology of the disease has been modified to this particular treatment, and the same means recommended indiscriminately in every case. On the other hand, the predisposition, debility, have been mistaken for the disease itself, tonics having been recommended, upon the principle of restoring tone to the body, and of producing an inflammatory diathesis;* and because there happened to be a want of inflammation in the part, this local state was, therefore, considered as the cause of the disease; and to counteract this state, an artificial fever is to be excited in the system. Such notions I conceive to be altogether incompatible with tetanus; for, as already observed, the symptoms of this disease are manifestly increased, by the presence of a general inflammatory diathesis of the system. But a state of general fever is very different in its effects from local inflammation; for, while a general febrile action aggravates the symptoms of tetanus, local inflammation has a tendency to remove them.

With respect to tetanus, it may be observed, that although such an irritation as I have mentioned is, in every instance, necessary to produce this disease, there is reason to conclude, that, when it is considerably advanced, the morbid irritation, may continue, independent of the original impulse. This must be ascribed to the effect of the habit induced by the original impression of the morbid irritation; so that, if the disease has arisen to a violent degree, it may be continued either with or without the irritation that gave rise to it. Thus drunkenness is mentioned by Dr. Girdlestone as a cause of tetanus; on the other hand, inducing a state of drunkenness has been known to cure the disease. Hence it is obvious, that in the first instance, the debility and irrita-

* Such were the principle and practice pursued and inculcated by Dr. Rush, and others.

bility induced by the fit of intoxication, merely predisposed the body to be affected by the particular irritation which happened to be applied; and, in the second instance, it is no less obvious, that, had the same cause which first gave rise to tetanus, still continued to affect the body, the disease, instead of having been cured, would have been aggravated by it.

From the view which we have taken of this disease, the curative indications must be pretty obvious.

1st. To remove or counteract the exciting causes by local remedies.

2d. To counteract the morbid irritation which constitutes the disease.

3d. To restore tone to the general system.

For the purpose of accomplishing these objects, the treatment naturally divides itself into local and general.

The local treatment consists of emetics, purgatives, and the division of the affected nerve.

When the cause of this disease exists in the stomach and bowels, emetics and purgatives become necessary. We are informed by Dr. Moseley, that purgatives were employed by Barce, a French physician, and with success.*

When, as most commonly happens, an external injury proves the exciting cause of tetanus, dividing the affected nerve between the place of injury and the brain, has been recommended, and even practised with success.† To render the operation successful, it is necessary that it should be performed upon the first intimation of the approach of the disease, for reasons already given on the influence of habit; for, if the operation is delayed till the disease is formed, it is then unavailing; and, under such circumstances, cruelty and want of success might be laid to the charge of the operator.

The general treatment of tetanus may be divided into two heads, according as the remedies are employed either externally or internally.

The propriety of considering external or local appli-

* Tropical Diseases, p. 494. See also Hillary's Observations, and Chalmers and Hamilton on Purgative Medicines.

† Hillary's Observations, p. 222; Cullen's Practice of Physic; Latta's Surgery, &c.

eations as general remedies, might at first be questioned ; but this question will be readily solved, when we recollect, that the operation of both is through the nerves and brain ; and, therefore, that the effect of the one class will be equally extensive and powerful as that of the other, provided the stimuli, in both cases, act with equal energy and force.

It is from the operation and effect of these stimuli upon the muscles, through the medium of the nerves and brain, that benefit is derived ; inasmuch as their absorption, and consequent stimulant operation upon the heart and blood-vessels, has no effect in removing the morbid condition of the muscles ; so that the production of a febrile diathesis, which is a secondary consequence of the operation of some of them, is not the object which we have in view in the employment of these stimuli, but the immediate impression which they make upon the affected muscles.

So far is the existence of a febrile action from curing, that the tetanic symptoms are actually aggravated by it ; otherwise blood-letting in tetanus, where inflammatory symptoms show themselves, contrary to what actually takes place, would be followed by pernicious consequences.

The power which local inflammation has of preventing or removing the symptoms of tetanus, is to be ascribed to the impression which it makes upon the muscles of voluntary motion.

The *modus operandi* of both the external and internal stimuli used as general remedies in this disease, when successful, consists in producing an impression different from and incompatible with that which gave rise to tetanus ; or in diminishing the sensibility of the system to such impression ; whereby it is rendered insensible either to the presence or effect of the morbid irritation ; since it may be considered as a law of the animal economy, that two actions or impressions of a different nature cannot exist together, in the same system, at the same time the weaker must yield to the stronger. Wherefore, in the treatment of tetanus, those remedies are to be employed, that by their quantity and quality, make the most sudden and powerful impression.

(To be continued.)

A Description of the MINERALS and PLANTS found at the LEAD MINES in the Missouri Territory: By JOHN BRADBURY, Esq. Montgomery, New-York, September 15, 1815.

THE tract of country which contains the lead mines of the Missouri territory, is situated on a branch of the Merrimac, a river which falls into the Mississippi, about thirty-six miles below the mouth of the Missouri. This branch is named the *Negro Fork*, and runs in a north-easterly direction. The face of the country which contains the mines is very uneven, consisting of high narrow ridges, separated from each other by deep craggy glens; the ridges have a peculiarly bald and arid appearance, relieved only by a few scattered cedars and black jacks, (*juniperus Virginiana*, and *quercus nigra*;) the vallies are well clothed with timber, and afford a considerable variety, amongst which I observed *quercus obtusiloba* and *q. macrocarpos*, *juglans falcata* (*olivæ formis* of Michaux) *celtis occidentalis*, and a new species of that genus called there hoop-ash, *guilandrina dioica*, and *diospyros Virginicus*.

The soil in the mine region, and that which surrounds it, is mostly calcareous; but the limestone rocks in the surrounding country are replete with the impressions of organized bodies; say *anomia*, *entrochi*, *belemnites*, &c. &c.; whilst the rocks which form the gangue of the ore appear to be wholly destitute of any impression indicating an organized form.

The earth, throughout the mineral district, is of a deep red colour, evidently much charged with oxyd of iron, which apparently results from the decomposition of an hæmatitic iron ore, found in the greatest abundance on the surface. This ore appears originally to have been pyrites, as it may be found in every stage of transition; and, when broken, often contains a nucleus, yet unchanged. Hornstone is common both to the lead country and that which surrounds it. The substances peculiarly concomitant are, sulphate of barytes, white and rose-coloured carbonate of lime, in the form of rhomboidal crystals, semi-pellucid white and amber-coloured, and crystals of quartz.

Although a considerable tract of country of the above description, extending in a westerly direction, undoubtedly abounds with lead, the mines, or, as they are more properly termed, diggings, are confined to a space of twelve or fifteen miles square; excepting *Mine la Motte*, which is considerably south of the rest, and on the waters of the river St. Francis. Those which I visited were *Mine au Burton*, *Mine au Jo*, *Richwood's Mine*, *New Diggings*, *Old Diggings*, *Elliot's Diggings*, and of *Belle Fontaine*. The process for extracting the lead is extremely simple: a wall is raised eight or nine feet high, parallel to which another, four and a half, or five feet high at the distance of four or five feet; these are joined at their extremities by two sloping walls, and the process is carried on to the intermediate space, by throwing the ore into a fire, made with large logs of timber. The usual proportion of lead obtained, is from sixty to seventy per cent. although the ore contains nearly eighty. The mines, or diggings, belong to several proprietors, who purchase the ore from the workmen, each on his own property, at two dollars per hundred pounds, and smelt it. The diggers are mostly French, and, until lately, the only implements used were a pickaxe and a wooden shovel. The workmen dig mostly separate, each making a hole six or eight feet long, and three or four in width, which is continued until they come to the rock, or until the depth becomes too great to throw the earth, &c. to the surface, when it is abandoned, and probably a commencement made at no greater distance than three or four feet. The ore is found in detached masses, intermixed with the substances mentioned above, as being its accompaniments.

Some of the mines have, of late, fallen into the hands of more spirited proprietors, who have caused the rock to be penetrated, and have been amply rewarded for their enterprise. The quantity of lead produced annually I could not ascertain, but I am of opinion that sufficient, could be obtained, for the consumption, of the United States for centuries to come, perhaps for thousands of years, as neither the extent or bounds of the lead region, have been yet ascertained, nor have the stores of that already known, been yet developed. In a tour up the Mer-

rimae river, at the distance of fifty or sixty miles west of the mines, I observed the country to be exactly similar, and abounding in the same substances. I was informed also that it continued the same to the Gasconade river, where lead, it is said, has been found. Some have supposed that the mines possessed by the Sakies and Fox Indians, about six hundred miles higher on the Mississippi, are a continuation of these. Within a few years the lead has been carried to St. Genevieve, to be there embarked for Orleans; but a town is now forming higher up the river, named Hereulaneum, more contiguous to the mines, which already has a considerable share in the export trade.

I shall conclude this by remarking some objects that may be interesting to future travellers visiting that part of the continent, and add a list of the more rare plants, in which I shall omit a considerable number which appeared to me as yet undescribed.

About five miles west of Hereulaneum, on the borders of the Upper Creek, is a vast rock of limestone, which is so completely perforated as to resemble a honeycomb. The diameter of the perforations is from one fourth to three fourths of an inch, and they have exactly the appearance of those made in marine rocks by the *mytilus lithophagus* and *rugosus*. Near *Hildebrand's*, on the Negro Fork, and in other places, may be observed rocks of sand-stone, so pure as to resemble, in colour and consistence, the whitest refined sugar.

In the year 1811 was discovered, in the Illinois territory, about six miles west of St. Louis, a vein of coal, from four to five feet thick, extending, as it is said, more than eighteen miles along the bluffs of the Mississippi. The coal is so highly charged with bitumen, as to melt in the fire into a consistence like tar.

Mr. Bradbury's List of the Plants observed at the Lead Mines.

<i>Zeptanthus ovalis.</i>	<i>Ammania ramosior.</i>
<i>Z. gramineus.</i>	<i>Batchia canescens.*</i>
<i>Frazera Walteri.</i>	<i>Onosmodium molle.</i>

* The roots of this plant give a beautiful crimson stain.

Solanum Carolinianum.	Liatris pycnostachia.
Lysimachia angustifolia.	L. cylindracea.
Gentiana puberula.	L. aspera.
Phacelia fimbriata.	Vernonia angustifolia.
Eryngium aquaticum.	V. novoeboracensis.
Ribes recurvatum.	Aster argenteus.
Lilium Catesbei.	Euphthalmum Helian-
Agave Virginica.	thoides.
Podalyria alba.	Bellis integrifolia.
P. (Sp. Nov.)	Tagetes papposa.
Talinum (Sp. Nov.)	Boltonia glustifolia.
Prunus Chicasa.	Coreopsis auriculata.
Nelumbum luteum.	Rudbeckia (Sp. Nov. Flor.)
Verbena Aubletia.	purpurea.
Isanthus Cœruleus.	Silphium Terebinthinace-
Clematis ochroleuca.	um.
Spiræa (Sp. Nov.) true In-	Orehis Spectabilis.
dian Physic.	Cypripedium Spectabile.
Hydrastis Canadensis.	C. calceolus.
Delphinium tricorné.	C. (Sp. Nov.)
Chelidonium diphyllum.	flore albo.
Hydropeltis purpurea.	Neottia Hyemalis.
Brachystemum muticum.	Juglans falcata.
Dracocephalum Virgini-	Quereus obtusiloba.
cum.	Q. Macrocarpa.
Phryma leptostachia.	Q. nigra.
Lippia nodiflora.	Sycos lobata.
L. (Sp. Nov.)	Vitis Æstivalis.
Gerardia auriculata.	V. Riparia.
Orobanche uniflora.	Gymnocladus Canadensis.
Pitalostemum candidum.	Planaria Gmelini.
P. violaceum.	Celtis Occidentalis.
Psoralea (Sp. Nova. *) P.	Celtis (Sp. Nov.) Vulg.
pentophyllum officin.	Hoop Ash.
Amorpha cœrulea.	Fraxinus quadrangulata.
Mikania (Sp. Nov.)	F. epiptira.
Prinanthus crepidineum.	Gleditsia Monosperma.
Liatris Elegans.	

* The root of this plant, a few inches below the surface, swells out to a tuber, and is dug up for food by the Squaws of the Mandans and other nations of the Upper Missouri. In taste it resembles a parsnip.

REMARKS on the Processes of DISINFECTION by *Muriatic and Nitric Acids.* By M. P. LEFORT, M. D. of the Faculty at Paris, late Inspector of the French Hospitals in England, Physician in Chief to the Navy, &c. &c.

Oportet discernere credere ; oportet jam
edoctum judicio suo uti.

Bac. de Augm. Scient.

NOTWITHSTANDING a certain number of opinions favourable to the new processes of disinfection, they have almost, from their origin, fallen into such absolute oblivion, that one might be inclined to believe, with Monsieur Morveau, to whom we are indebted for the first idea, that, in the fifteen or twenty years which followed their first attempts, there has not been a single occasion to make the application. It is thus, at the expiration of twenty years, that the well-grown and well-merited reputation of the French chemist, and the established credit of a physician to the British King, have undertaken to bring into vogue their anti-contagious method. A higher authority is often required to make us acknowledge and admit a great and important truth. Such, also, is frequently the effect of prejudice, and that more particularly in medicine, that the man apparently the best qualified to think and decide for himself, cannot always avoid an obsequious deference to the person in place, or in the enjoyment of high reputation. This is so much the case, that it may be said with truth, that a great name not uncommonly serves as a passport to a great error. The famous Astruc often repeated to his pupils, that no authority, however respectable, can ever be irrefragable, and that it ought always to be examined by the light of observation.

Indeed, without a certain independence, a wise boldness of spirit, the mind would be perpetually the plaything of a thousand fancies. It is infinitely better to exercise the reason and judgment, in seeking truth for one's self, at the hazard of being deceived with one's masters, than to rely implicitly upon their declarations.

and to be trammelled with slavish prejudice. I say further, that a certain amount of doubt and opposition, if combined with the love of truth, and to the fear of yielding to a stiff enthusiasm, is always commendable, and may have its use in the science of observation, even when it misses the mark. By this I profess to be guided on the present occasion. A stranger to the parties which divide the chemists upon this question, I combat in good faith, and for the love of truth alone, a doctrine which does not appear to be better founded in theory than it is confirmed by experience. I feel a profound veneration for the genius of invention, but I have a higher veneration for the truth; I render homage to the talents, to the excellent views, to the great attainments of Monsieur de Morveau, and to Dr. Carmichael Smyth. But the authority of their great names cannot impose upon me. It is not men that must be examined, but principles. Unknown as I am in the republic of literature and of science, I am, nevertheless, persuaded that there is no need of a Newton to make a successful attack upon the dreams of Descartes.

It is with certain theories, as it is with other speculations, which do a great deal for the reputation and interest of their authors, and very little for the benefit and good of society. That of acid fumigations, brilliant as it might appear at first glance, has, notwithstanding, been very far from commanding the general consent; both in America and in England, it has been opposed and exposed by several physicians and chemists, and among others by Mitchill and Trotter. The former of these observers significantly remarked, as long ago as the year 1796, (see *Med. Repos.* vol. ii. p. 252) that "if Messrs. Smyth and Morveau had, instead of fumigating with marine and nitrous acid gases, opened their snuff-boxes, and dispersed the powder of tobacco through the air of the apartments, they would have destroyed full as much contagion." See his letter to Professor Maclean on the deceptive nature of this whole proceeding, and on the sovereign power of alkaline salts and earths, to overcome impurity and nastiness of every kind.

If you ask, however, certain professional gentlemen if they ever follow the theory of acid fumigations, admi-

rable as they pronounce it to be, in consequence of an examination or trial they have made of its merits, they tell you, that the chief evidence on which they rely is the hearsay of others. But, for myself, I have estimated it experimentally, and I can speak with reason of those fallacious meteors which rise, shine, dazzle for an instant, and then leave in the deepest darkness those who have received them with too curious a regard. For my own part, I confess I have never comprehended the subject; and even if the nature of those sour exhalations was perfectly understood, how shall the meaning of Monsieur Morveau be interpreted, when he says that a surplus of oxygene is added to the atmosphere of the infected place, to replace and restore the ingredient destroyed by the contagion? According to this explanation, it must operate by virtue of a chemical affinity between the miasmata and the gases extricated among them. Here we behold this distinguished chemist changing his opinion on the nature of the products of putrefaction, as the cause of miasmata, for the purpose of explaining, however unsatisfactorily the explanation may be, the effect of fumigations. In his first essay he considered ammonia as the vehicle of contagious miasmata, and even as one of the ingredients in their composition. (See page 8 of his work on disinfection.) Now, as the muriatic and ammoniac, on coming together in the form of gases, form a neutral salt, the contagious miasmata disseminated through the air, ought to be *seized* by the highly diffusible vapour of the muriatic acid, *abandoned* to their own proper gravity, and *precipitated* after having lost their morbid quality. This hypothesis furnished a solution, far more specious than satisfactory, of the effect of the muriatic acid gas upon the products of putrefaction, considered as the productive cause of miasmata. But subsequent experiments had taught Monsieur Morveau, as indeed he informs us himself, that what he had considered as a *steady fact*, turned out to be a mere illusion. He has laboured, without success, to discover the smallest traces of ammoniac in an atmosphere charged with putrid emanations (*ibid.* p. 100.) He was, thereupon, forced to renounce his first theory, because it was founded on a basis, that, to say the least of it,

was doubtful. Yet in the moment of confessing, that hitherto the one had been able to penetrate the hidden nature of contagious miasmata, those terrible compositions. Monsieur Morveau thinks it was very probable that their leading character is derived from azote (p. 247-249) and that their chief activity depends upon a surplusage of azote as much as that of the muriatic acid is the result of its hyperoxygenation. It is this latter analysis, the result, as Monsieur Morveau confesses, of a simple probability, on which the whole theory of his fumigations rests. But in granting that to be a fact, which in reality is but a probability, he is obliged to assume a second supposition, to wit, that the muriatic gas imparts to the atmosphere a surplus of oxygene, that exerts an affinity upon the contagious miasmata, and decomposes them; or, at least, by its stimulant virtue, assists nature in resisting their deleterious action.

Now, as was before observed, several chemists have denied that these fumigations have any such operation; and Monsieur Morveau himself denies that Dr. Smyth's nitric vapour possesses any property whatever to enrich the atmosphere with oxygene. It must be held for certain, observes this distinguished gentleman, (p. 166) that the air impregnated with nitric acid vapours, is not only not furnished with an increase of its respirable portion, but it almost inevitably happens, that it will be rather the worse for it. So far then are the fumigations of the English physicians, from fulfilling this essential, and perhaps only object, that the French chemist positively condemns them. A strange circumstance, and indeed inexplicable by every person except Monsieur Morveau, is, that at the same time he affirmed the impoverishing operation of Dr. C. Smyth's nitric fumigations, we are assured of their happy effects. He, however, finds the English process far less easy, and greatly less efficacious than his own, which he does not hesitate to call the most simple and the most agreeable that had ever been presented to man, for the purpose of shielding him from all manner of contagion. On the other hand, medical chemists who have frequently compared the two methods (Ozier Biblioth. Brittanic.) give a decided preference to those of Dr. Smyth. From trials made on

themselves, they roundly accuse the oxygenated muriatic vapours with producing a disagreeable irritation in the throat and breast, and they declare it to be wholly impracticable in inhabited places. Dr. Batt, who claims also his portion of honour for having been one of the first to employ these fumigations at Genoa, goes so far as to disapprove the use of the Guytonian flasks, confessing frankly, that although he does not know, intrinsically, how the nitric vapour acts upon contagious miasmata, yet if it was by furnishing, as Monsieur Morveau presumes, a portion of oxygene, the simple muriatic acid gas attracts that principle so strongly, that it appears to him wholly impossible for it to succeed in the destruction of miasmata. From these remarks it may be seen that the inventors and partizans of these two different methods, mutually charge upon that which is not their own, the same radical defect. At that time experiments had not been chemically and conclusively made upon the nature of the oxygenated muriatic gas, or oxymuriatic vapour; and it is only within a very few years that the most celebrated French and English chemists have undertaken to explore it. Until a very late period it had been supposed, without proof, that the muriatic and oxymuriatic acid were compound bodies, formed of a base of some kind, united to oxygene; and that in this fumigating process the oxygene quits its base to join the atmospheric air, or rather to associate with the contagious miasmata.

It is thus, that in physics, philosophizing men formerly had recourse to occult causes to explain the phenomena which they could not account for in any other way. And so it is, that by taking a hypothesis for a fact, these modern chemists have been able to behold, in clouds of smoke and vapour, nothing but *masses of oxygene burning up the contagious miasmata, destroying them, and causing them to disappear, without changing their own oxygenous nature.*

Numerous experiments, made at the same time in England and France, by the most intelligent and ingenious chemists of the two nations, and ending in similar results, are totally subversive of this brilliant hypothesis. They have proved it to be but a chimera or a phan-

tom. It appears from the most careful and exact analysis of the oxygenated muriatic acid gas, treated with potassium, which robs all substances of their oxygene, "that the oxymuriatic contains none, or at least there was no good reason for assuming the presence of this principle as a fact, since, notwithstanding the employment of the most powerful re-agents, it has been impossible to decompose the gas. It ought, consequently, not to be considered as a compound body, but merely as a simple elementary body." Such is the present state of science on this point, as ascertained by the researches of Sir Humphrey Davy, Messrs. Lussac and Thenard.

Hereupon several men of science have proposed to discontinue the name of oxygenated muriatic acid gas, because it cannot be proved to be a compound. They signify their intention of calling it *green** gas, or *chlorine*, from its colour; or *murigene*,† from its origin; meaning thereby to denote an element found in all muriatic compounds; after the example of azote, which has been called nitrogen, because it is found in all nitrous compounds.

After the suppositions admitted, as well on the nature of the contagious miasmata as that of the gas, which we now equally rate at their just value, the argument on which the greatest stress is laid, and which has the most favourable aspect towards fumigations, is deduced from the property they possess, of more or less completely destroying bad smells. Monsieur Morveau contends, that to destroy the odour of a substance, is to destroy the property of it (p. 192.) This position, which is not admissible but with great restrictions, goes upon the supposition, that the deleterious and contagious quality of miasmata consists in their power to affect the smell unpleasantly by their odour. Now, if it is true that the morbid property resides in the offensive smell that always accompanies putrid exhalations, upon which alone Monsieur Morveau has made his experiments, it is no less a fact, and an incontestible one too, that there is not a great number of the miasmatic vapours that make any

* Ampère, Inspector of the University.

† Prieur, *Annales de Chimie*.

sensible impression upon the olfactory nerves. Of this class are those of the small-pox, yellow fever, plague, &c. &c. I am, nevertheless, far from admitting that putrefaction is the only productive cause of the miasmata that are really and actively contagious. In like manner, it sometimes happens that without any evident putrefaction, miasmata multiply, propagate, and communicate contagion, from one individual to another, as in typhus fevers, prisons, hospitals, &c. And also does it frequently happen, that persons are exposed to the most putrid exhalations, if a judgment may be formed of them by their stench, without experiencing any of the terrible effects that characterize malignant fevers. It, therefore, seems necessary, to enable the miasmata which proceed from putrefaction to produce contagious distempers, that they should undergo an elaboration in the human body, which changes their nature, in all probability, and renders them susceptible, like the contagions called specific, of multiplying themselves in the individuals infected by them. But I return to the question.

I think it is clearly demonstrated that the theory of fumigations cannot be maintained in any point of view whatsoever. The illustration of the subject, as to the anti-contagious nature of the gases, can only be derived from *experiment and practice*. To these tests we must ultimately resort. Above all, we must examine the facts adduced and alleged in favour of fumigations, and determine therefrom the measure of probability or certainty that ought to be attached to them. By careful inquiry we shall thus learn the amount of the prophylactic or curative virtues of these gases. Dr. C. Smyth, well convinced of the impossibility of offering (to the public a decision upon principles) a satisfactory explanation of the theory of this process of disinfection, has taken care to avoid all discussion on the subject, and limits himself to the exhibition of all the testimonials in their favour. This was the most certain method of fixing the opinions of those who permit themselves to be influenced by example, and who, in their proceedings, as Monsieur Morveaux observes, do but imitate others; and this is unquestionably the case with the greatest number.

One of the most able and elegant writers of our age, M.

Cuvier, (in his report on the progress of natural sciences during the last twenty years) considers as not sufficiently verified by calculation, and confirmed by experience, either the preservative power of the vaccine against the small-pox, or that of the mineral acid vapours to prevent and destroy contagion.

It would be curious to see a parallel statement of the proofs and experiments by which it is pretended to evince the equal efficacy of these two discoveries. That of Jenner, which will immortalize his name by assigning him a place of eminence among the greatest benefactors of humanity, is supported by observations and experiments so multiplied, so positive, and so universal, that there is nothing better established in medicine, nothing more evident. It is not merely in England, nor in France, nor even in Europe, that they testify in favour of vaccination; but it is over the whole world, where it has been put in operation. It is not a physician here and there, or simple individuals who attest its preservative virtue. Numerous societies of men, intelligent bodies through all nations affirm the same thing. Like all other new and important discoveries, that of Jenner, in favour of which neither theory nor reasoning can be invoked, has had its unbelievers and revilers, even among men of information, and capable of judging for themselves; but their number decreases every day; and if they hold out in good faith, and wish nothing but *evidence* to convert them, I recommend to their perusal the report made to the Institute of France, in September, 1812, by Messrs. Berthollet, Percy, and Hallée; they will there find *positive* facts, and innumerable experiments, that have been accumulating for fifteen years, the authenticity of which cannot be questioned. There may be observed, in the examination and comparative estimate of facts, that they have not laboured to deduce absolute and exclusive consequences, and to extol the benefits of vaccination, so much as they have done to infuse into the inquiries which relate to it the precision necessary to determine, as nearly as possible, how to measure probabilities, and, consequently, to calculate the value that ought to be ascribed to Jenner's discovery, and to the service he has rendered, and continues to be-

stow to humanity. There it is put out of doubt, that the insertion of the vaccine virus does not introduce into the body a matter of a nature to molest and derange our organs ; that the eruptions, which are united at first with the ordinary effects of vaccination, are owing, not to the nature of the vaccine itself, but to circumstances most commonly known and determinable, during the agency of which vaccinations have been made ; that the consequent disorders that have sometimes been observed after vaccination, when they are not connected with pre-existing diseases, are evidently special cases, arising from the peculiarity of individual constitutions. In short, after having read and considered this admirable analysis of facts, statements, experiments, and results. they who had been before the most sturdy unbelievers, will be forced to yield, and to acknowledge the innocence of the vaccine, and its established efficacy to prevent the small-pox.

What now are the facts, statements, experiments, and results, cited to corroborate the process of disinfection by fumigation ; are they positive, universal, and irrefragable like those of the vaccine ? It is only necessary to run them over to perceive their emptiness and insufficiency. Whoever will examine them without prejudice, and compare and weigh them with attention, will be convinced that there is not a *single one* which carries conviction ; not a *single one* which proves the efficacy of fumigations against contagious diseases. All the facts and statements collected and recorded in the works of Messieurs Morveaux, Smyth, and Odier, are, with the exception of some which I shall particularly examine, *detached*, and *negative*. It is a superintendant, a surgeon of a public establishment, of a vessel, of a frigate, or of something or another, who, on the renown of the new process of disinfection, has put it in practice ; they are anxious to make known the happy effects to Messieurs Smyth and Morveaux. Full credit is given to their statement ; they are published, to the great delight of their authors, who probably possessed no other method, nor ever would find another opportunity of making their names known to the public. Such, in general, is the real truth as to the kind of evidence by which it has been pretended to

establish the virtue of these gases. He that has read one of them, is almost acquainted with the whole. Fumigations were applied; and the people recovered. Therefore, the fumigations were the preservative against the contagion. *Post hoc, ergo propter hoc.*

Among the reports produced in favour of fumigations, and exhibited in the book of Dr. Smyth, as translated from the English tongue by Dr. Odier, of Geneva, I shall quote two of the principal, which may serve to show the worth of the rest, and to justify the opinion I have formed of the whole collection. The first is that of Mr. David Patterson, chief surgeon of Porton hospital, near Portsmouth, where the French prisoners of war, sick and wounded, were kept, in 1794, 1795, and 1796; the second is that of Mr. Charles Lane, a captain of a vessel, and royal superintendent of the French prisoners of war confined at Plymouth, in 1798, 1799, and 1800,

(To be continued.)

REVIEW.

Sketches of EPIDEMIC DISEASES in the State of Vermont, from its first Settlement to the Year 1815 ; with a Consideration of their Causes, Phenomena, and Treatment. To which are added, Remarks on PULMONARY CONSUMPTION. By JOSEPH A. GALLUP, M. D. 8vo. pp. 419. Boston. Bradford & Read. 1815.

NATURE seems to have intended, as far as can be gathered from history, that great numbers of the human race should be destroyed by epidemic distempers. Incalculable has been the mortality from this source, in all ages of the world, since population became thick. It behoves us, therefore, to inquire into the facts and appearances, the causes and consequences of such wide-wasting plagues. This is the more important, by reason of the novel form and aspect they have assumed in the United States, overturning the doctrines of the schools relating to fevers, and bidding the students to shut their books, and learn unwritten lessons from the bed-side.

When we find a modern physician employing heat and other external stimuli, to rouse the constitution from its awful torpor, during the first stage of fever, (p. 178) employing venesection, emetics, and the gentlest diaphoretics during the high excitement of the second stage, (p. 199, 200) and counteracting the indirect debility of the third stage, not by full and frequent doses of opium, calomel, wine, barks, alcohol, and all the alexipharmic round (p. 210), but by evacuations proportioned to the exigences of the case, (ibid.) and by supplying the patient with light and agreeable food and drinks, (p. 212,) we are induced to look back to the practice of ancient days ; and we do so the more particularly when we read the following sentence, (p. 193) " it is asserted by some, that the disease ought to be taken out of the hand of nature, and cured. This is true in a certain degree ; for the enthralled operations of nature lead to destruction, but when emancipated, conduct to health."

The Hippocratic practice, after having been superseded or rejected by many physicians, still receives the sanction and homage of others. It has been too much neglected by the moderns, who, by the preparations of antimony, quicksilver, arsenic, and of the poppy, foxglove, and cinchona, were determined to assail diseases with a strong hand, and restore the sickly constitution rapidly to health.

The father of physic rather thought it a physician's duty to watch carefully the progress of febrile diseases, to remove impediments to the freedom of action, to aid the wholesome tendencies of the constitution, and to repress its inordinate sallies, than to interrupt the workings of the system by remedies of extraordinary power. Under such management, he trusted to the operations of nature, or, in other words, to the efforts of the living constitution.

He contended that opposites are the best cures for each other. Cold was, therefore, the best remedy for heat, and heat for cold; depletion will relieve plethora, and repletion will repair the waste of evacuation. The great object of the practitioner's skill was to furnish aids and helps of every kind that were wanting; to remove redundancies and superfluities, wheresoever they abounded, and to regulate and equalize the vital and circulating forces through every part of the body.

Oftentimes attempts were made to effect the cure of acute diseases, by diet and regimen merely; rigid abstinence, for three or four days, wrought great and salutary effects. This was carried so far, that the thinnest drink, for the time, was forbidden, except the trifle that might moisten a parched throat by means of a sponge. If this decisive plan did not answer the desired purpose, diluents were permitted; and oxymel, oxyerate, and the watery solutions of the juices of subacid fruits administered to the patient, alternated with the infusions of aromatic herbs, with barley water and ptisans. This plan was enforced until the fourteenth day, if necessary, and then a more substantial regimen adopted. During the whole of this time, few medicines, save gentle pukes and purges, were ordered for the sick.

Nevertheless, if more efficacious cathartics were ne-

cessary, Hippocrates had no hesitation to order the most powerful that the materia medica affords; for colocyinth, elaterium, hellebore, and scammony, were dealt out by him with remarkable freedom.

He was careful to secure external heat by fires in the room, by bed-clothes, and by hot water and warm embrocations; and to excite the internal action by heated liquors, and, occasionally, pure wine received into the stomach.

By these means he succeeded in keeping open the pores of the skin, as much as possible, and he encouraged urinary discharges, by means of garlic, cucumbers, celery, fennel, and other diuretic herbs, or their parts.

He was, also, a free and copious letter of blood, where he thought it necessary. The actual cautery was a common agent in his hands, to make issues and procure discharges; and he acted with singular boldness in the accidents, especially of the bones, which required surgical aid.

The occurrence of critical days in fevers depends upon a law governing the human constitution, and causing it to act by times and periods. The tertian type, or febrile term of forty eight hours, has been observed to prevail until the eleventh day; to which term, the third, fifth, seventh, ninth, and eleventh were critical. The quartan type, or term of seventy-two hours, prevailed afterwards until the twentieth day; and from the last mentioned, the critical days were the fourteenth, seventeenth, and twentieth. Beyond that limit the constitutional movements were not so regular, and afforded much less certain grounds for prediction. During these periods, and more especially on the specified days, the physician of the Hippocratic school watched the operations of nature; and under his regimen and remedies, expected a favourable event.

This term *nature*, the *vis naturæ medicatrix*, the *autocrateia*, and the whole doctrine of critical days depending thereon, have been exploded as imaginary, or condemned as delusive, by certain sectarians of recent times. They have declared there is no presiding mind, no directing soul, no self-preserving principle, to mode-

rate the disorder raging in the constitution, and carry the patient in safety to the end of it. The physician is, therefore, called upon to despatch the business of the cure, and to prostrate the fever at a blow. He is to assail the distemper with medicaments of such force as to have been compared to Sampson and to Hercules; without recollecting that the former presents one of the most instructive examples on record, of the way (by pulling down the temple of Dagon) in which the destroyer of his enemy may also destroy himself; and that the latter is an admirable allegory, illustrating (by the foul and bloody shirt of Nessus) the pernicious and fatal termination of a high and uncontrolled phlogistic diathesis. It has been said of the medicinal Sampson, quicksilver, that he hath overcome both patient and disease with his overwhelming arm; and of the remedial Hercules, brandy, that he has confounded both the sufferer and his malady in one common ruin.

From such practice we exhort all who peruse our pages to beware. Better for the physician and the patient to be a little more moderate and prudent, and to recover health by the assistance of art, conjointly with the powers of the constitution. Be not terrified, friendly reader, that *powers* are ascribed to the *constitution*. We do not mean to provoke a controversy, but merely to express a fact. It is a fact, that sick persons are acted upon by certain stimuli, such as heat, light, food, drink, blood, thought, perhaps poisons, and other morbid agents. It is a fact, that, under this compound agency, the human system is obliged to perform various motions, and those too in somewhat of a determined series. And it is, further, a fact, that, by moderating such actions, if excessive, and raising them, if too languid, a considerable proportion of those who are attacked by fevers, may be conducted safely through them. Now, by the powers of the constitution it is only intended to express the circumstances as they actually occur, and to say, that, in most cases of fever, at least in their beginning, there is energy enough, if it be well economized and applied, to eventuate favourably; there is a stock of vigour which the physician must preserve; he must guard the strength against undue and unnecessary waste.

The excitement ought to be measured, as exactly as practicable, by the rule of wholesome mediocrity. This portion of vitality is the basis of all remedial exertion, and upon it is founded the ancient adage, *medicamentum non agit in cadaver* ; physic will not work upon a dead body.

There is no abstract speculation in this discussion ; it is not entangled in metaphysical subtilty ; there is nothing uttered or implied concerning the anima archæus, or any other superintending principle. It is merely affirmed, that, in febrile distempers, there are certain powers in the system, which it is the business of the doctor to direct and preserve.

If we mistake not, there is a grievous and radical error indulged by many persons on this subject. They affect to *cure* diseases, when the utmost exertion of their skill can *only conduct their patients safely through them*. It has been deemed too humble a function to minister to nature. In the pride of his station, man has attempted to lord it over nature ; or rather, he has interrupted her operation by the tricks of his art.

To explain more fully our meaning, we say, that there are several diseases, of which, although the patients generally recover, they cannot be said to have been *cured secundum artem*. The small-pox is such a disorder ; it commences, runs its course, and, finally, concludes its train of morbid action. A physician may prescribe, and direct, and do much service, in a dangerous case ; but will it be pretended that the small-pox was ever cured by the doctor ? The most he can claim is, to have conducted his patient safely through the disease. After running its course, the diseased action subsides, the living solids being no longer susceptible of its stimulus. Nor can it be affirmed with greater propriety, that measles can be cured ; medical aid may be fairly given, to carry the person that suffers morbilious mischiefs to a favourable issue ; but it would be incorrect to say that the disease was, at any time or stage, cured by the physician, or capable of being so by the most expert and able of them all. The same is true of whooping-cough, mumps, and varicella, which, after having taken possession of the human frame, cannot be

dispossessed by any means worthy of reliance. The function of the physician, like that of the boatman with his oars, is to pull forwards, or to push backwards, as the good of his voyage may require.

Catarrh, or a common cold, is, likewise, a disease for which there is no proper cure. People, generally, recover from this very frequent, though severe indisposition; not, however, because they have cured it, but because the morbid action, after a certain continuance, cannot be longer supported, and abates for want of something to sustain it. Whether the coryza be treated with snuff, or aqueous vapours; with cold water, or hot tea; with pediluvium, or a blister to the neck; with pargorie elixir, or lemon candy; with spare regimen, or full diet; with sudorifics, or expectorants; in short, treat the disorder as you please, and, in spite of your remedies, it will proceed until it arrives at its height, and will, thereafter, gradually subside. Yet a physician may do much service in mitigating the violence, and preventing the consequences of a disease that he cannot cure. The misfortune he incurs, is, that he believes he makes a cure, when, in reality, he, at best, only succours the powers of the constitution, like a friend and an ally, during the vehemence of the contest.

The same remarks apply to the condition of the body and to the administration of remedies in other febrile diseases. The enemy has invaded you; it takes time and effort to expel him; he quarters upon you, and exhausts you. When he departs, he leaves strong traces of the devastation he has committed; and, if you encounter him fiercely, there may be vestiges of the violence which you have committed yourself. It is natural that we should be impatient under pain and sickness. The sufferer demands speedy relief, and the physician hurries to afford it. More is often done than is either discreet or proper. No moment was left for the powers of the constitution to recover themselves, after a part of the pressure is taken off. Remedy succeeds remedy, and expedient treads upon the heels of expedient, with such rapidity, that the patient may be fairly said to have been physicked to death, and to have rather died of the doctor than of the disease.

The reason of this tremendous practice may be derived from an opinion generally prevalent, that diseases may be cured, and that the physician is the agent to effect such cures. Let the case be as discouraging as possible, it is often expected that he will try; and the circular routine of remedies is as patiently borne as if they spent their force upon the disease alone, and left the constitution untouched.

But we desist from further reflections upon the polite and fashionable pretension to cut the fever short at a stroke, and stop its progress in a crack. The terrible mortality consequent upon the prevalence of epidemics, thinning the ranks of civil society, and prostrating the strength of armies, proves to us that such occurrences, mournful as they are, are inseparable from the conduct of mortal affairs; but console us at the same time with the prospect of that reproductive power, by which society, with astonishing rapidity, repairs the losses they occasion.

We proceed with the examination of Dr. Gallup's book, which seems to us replete with good and sound Hippocratic practice. In it he very justly censures the prescribers, who have indiscriminately and extravagantly pursued the refrigerating course in fevers, as well as those who have as injudiciously and injuriously insisted upon the heating plan. He states his own disappointments, in the commencement of his practical career, to have been so serious, that he conceived a dislike to books, and had little to do with them for several years. He then devoted his attention to the symptoms of diseases, and to the varied action of the system under the operation of remedies. By these means, and by tracing the phenomena by dissection, wherever he had an opportunity, he is inclined to think he has acquired more solid and genuine knowledge, than by poring over the records of the ancients, or the speculations of the moderns.

After a topographical sketch of Vermont, he proceeds to an historical summary of the epidemics observed in the vicinity of the Green Mountains, from the commencement of its settlement, at the peace of 1763, to the close of 1814, a term of rather more than half a century. Both chapters, and especially the latter, contain proofs of industrious and accurate researches.

In the following chapter, Dr. G. discourses of the causes of fever. He defines *contagion* to be, that agent in living organic bodies, which has the power of producing its like in a healthy person, and of acting, either in the form of a subtile gas, or by contact. *Infection* is stated to be, that morbid specific product of living organic bodies which perpetuates itself in the healthy constitution, to which it is applied by contact alone. *Miasma* is the noxious gas, formed from the putrefaction of animal and vegetable matter on the surface of the earth, and volatilized by caloric. *Mephitic* is used by him to signify all other hurtful productions, proceeding from the surface and bowels of the earth, and creating sickness. *Pestilence* is the diffusion of some undefined deleterious influence, far and wide, through the atmosphere. He considers contagion and infection as being totally unconnected with epidemic distempers; and he derives epidemics entirely from miasmata, mephitic, and pestilential sources.

His views of the uncontagiousness of epidemic diseases, in the second section of the present chapter, (p. 95-101) are perspicuous and plain; and we recommend them to the perusal of all those who desire to see careful discrimination and correct definition, on a subject that has been, unhappily for the profession and the police, so laboriously perplexed.

The author, in the third section, seeks the remote influences which increase the liability of the human body to disease. Not content with the operation of the sun and moon, and planetary spheres, he derives from comets a direct agency upon the health of man. It is not to be denied, that epidemic distempers precede, or succeed the appearance of these eccentric orbs. This must necessarily happen, unless the maladies should rage only when the comets are in sight. It has not, however, appeared clearly to us, that comets were, in any degree, the causes of epidemics. There is a great difference between *post quod* and *propter quod*. The assignment of the diseases that occur for months, and even years, before and after the appearance of comets, to cometic influence, reminds us of the philosophy of that weather-wise prophet, who made the school-boys stare, by

assuring them, that, if it did not rain within three or four days before or after the full change, or quarters of the moon, there would be no rain during the month. The author is an enthusiast in his sentiments upon electricity. A system of physical and medical electricity was reviewed in our vol. x. p. 276-280. To that review, and the publications therein mentioned, we request our readers to turn. We differ from Dr. G. in supposing the "active, energetic fluid" of electricity to be the *vinculum*, or connecting medium of the fragments of universal nature (p. 150.) Just the reverse—we had considered attraction to be the bond of union, and electricity one of the modifications of fire, to be a repelling or dissociating agent.

The conclusion of Dr. G. from the premises, is, that a *pestilential* or *inflammatory* state of the atmosphere, is occasionally produced by very remote and general causes, such as those enumerated; and, that an unhealthy predisposition of the air may be caused by more limited and local agents. He thinks it doubtful, whether the general distemperature can, of itself, excite disease. He supposes, also, that local derangement alone is equally harmless. But, in order to make a morbid constitution sufficient to cause a sweeping epidemic, or, as he somewhere calls it, a pandemic, there must be a co-operation of the two (p. 127.) Reasoning upon these principles, he considers the doctrine of contagion as untenable and preposterous, and inveighs against its mischievous and delusive tendency. Under the operation of these predisposing causes, he ranks among the exciting causes of fevers, cold, absolute and relative, atmospheric and constitutional; grief, fear, anxiety, watching, wounds, bruises, burns, surfeitings, famine, all passions in excess, intoxication, debauchery, and, in short, agents, of whatever kind, that can disturb the regular functions, and induce the morbid commotion.

In his fourth chapter, the author treats of fever in general, and opens the subject by declaring, that "the symptoms of fever are all equivocal;" whether in the acute spotted fever, destroying life in four hours, or chronic typhus, sometimes terminating fatally, after a continuance, under bad management, of an hundred and

twenty days. In the present state of our knowledge he considers a definition very difficult ; he has not been able to please himself better than by the following : that it is " an assemblage of symptoms and circumstances denoting a more violent state of action, and a more suddenly fatal tendency, than those which attend *chronic* diseases. After having examined its phenomena at considerable length, he proceeds, in his fifth chapter, to consider the treatment of febrile action. This he pursues, like a physician of practical sagacity, profiting by the *ludentia* and *juvantia*, through the three stages of fever, recommending, as he goes along, the remedies for the patient, under the depression at the onset, the succeeding term of high excitement, and the indirect debility, and others which ensue.

When signs of debility, or putrescency appear, Dr. G. says, that the great secret of the practice is, to convert that state of action into the sthenic or phlogistic action, and afterwards to reduce this action into a healthy action, by suitable and mild measures. But he declares that high stimulants will not do, inasmuch as they overact the tragedy. We recommend the objection he makes to the free and fashionable administration of opium and quicksilver, in fevers, to the candid perusal of every prescriber, (p. 216-222.)

The author next discusses, in his sixth, seventh, eighth, ninth, and tenth chapters, the spotted fever, the epidemic peripneumony, the dysentery, the angina epidemica, and the typhus epidemicus, as they have severally appeared in Vermont.

He thinks the spotted fever very similar to a disease, that, during the last three hundred years, has frequently raged over Europe ; though it did not appear in the region of Dr. G.'s residence until the winter of 1810-11. We express, frankly, the favourable opinion we have formed of his careful and judicious method of treating the sick, inasmuch as it is derived from observation and experience, the true sources of instruction, for which we propose a reference to the original, and to the Medical Repository, vol. xiii. xv. xvi. and xvii. and to our present vol. p. 1.

Dr. G. proceeds to the pneumonia typhoides, or epidemic pleurisy. He considers it as well characterized, in the books of medicine, as a frequent consequence of other epidemics, especially the plague. Faint traces of it may be discovered in Vermont, during the winter of 1794-5, and so on, occasionally, to 1812-13, when this pneumonic fever became general and distressing. It is remarked, that as influenza, or epidemic catarrh, commonly precedes severe pestilence, so pneumonia generally follows it. If it attacks with a locality on the muscles of the thorax and pleura, it constitutes a common inflammatory fever. In 1811, 1812, and 1813, it showed itself on the skin, with petechiæ; in 1810, 1811, and 1812, the principal seat was the head; while, in 1813, the thoracic viscera were its more immediate residence. The most alarming attacks are not preceded by a chilly stage or fit, but with coma, absolute coldness of the surface, and depressed, low, intermitting pulse, indicating the disease to be of a highly malignant disposition, and the patient to be in the most imminent danger. A highly inflamed condition of the pulmonary organs was proved by dissection (p. 285); and corroborates Dr. Mann's observations in our vol. xvi. p. 256; and Dr. Fuller's, *ibid.* p. 331; as also Dr. Stuart's, in our vol. xv. p. 33; and Dr. Wilson's, vol. xv. p. 351. A leading remedy is the stimulus of free caloric to the surface of the body, a practice enforced by the internal efficacy of hot water, in our analysis of Portio's directions for preserving the health of soldiers, vol. xvi. p. 345; and by the external operation of the vapour from flaming distilled spirits, in our review of Jennings's book and apparatus, *ibid.* p. 368. By these two modes, heat, *propria forma et substantia*, may be rapidly and most extensively applied to the body; and of the latter mode, we joyfully seize the present opportunity to state our practical conviction, that its convenience, efficacy, neatness, cheapness, and adaption to the cases of those who are the most infirm and debilitated, render it one of the most excellent of the methods ever devised to apply heat to the skin.

After restoring caloric to the body, he extracts blood, exhibits mild sudorifics, gentle emetics, and moderate cathartics, with a variety of other remedies, which the

inquirer will find in Dr. G.'s dissertation read before the Medical Society of Windsor county, on the 8th of June, 1813, and printed in the present book, as the third section of the seventh chapter (p. 288.) He denies that it is contagious, or communicable from one person to another.

In the chapter on the plague in the bowels, commonly called dysentery, the author considers that distemper as holding a high rank on the scale of epidemics. He affirms it to terminate fatally, sometimes in a few hours, like other severe distempers of the same class. It is inflammatory from the very commencement, as much as the pneumonia itself. It is a common occurrence for a fever to change to dysentery, and for dysentery to return to continued fever. The opinion of Sydenham is adopted, "that dysentery is a fever of the season, or of its own kind, turned inward upon the intestines;" and the author's indication of cure, of course, is "to turn back the circulation to the surface of the body." This is done chiefly by sweating. He declares, that the evidence of an assimilating or fermentative principle, passing from one person to another, and rendering dysentery contagious, has never yet been given.

The ninth chapter is employed in considering the disease popularly called canker-rash, and by Dr. G. *angina epidemica*. He affirms it to be the same with *angina maligna*, and *scarlatina anginosa*. He censures the practisers who have attempted to establish them as distinct maladies. They are gradations of the same disorder, and are equally destitute of the smallest pretensions to contagion.

The tenth chapter is devoted to the consideration of the slow or continued form of the fever called *typhus*. The contagious nature of this Dr. G. also denies; and he seems to think it differs from other epidemic fevers, in no other manner than by its less violent character, and more protracted fatality. He views even the *typhus mitior* as an inflammatory disease, and affirms that every symptom and circumstance warrant the conclusion. Being satisfied that the vital energy or power of the constitution is not preserved, but rather exhausted by high stimulation, the use of moderate, but persevering remedies, is recommended.⁴ Strange as it may ap-

pear, the author avows he has let blood in the commencement of typhus fevers, and so on, to the twenty-fifth day of the disease, where the symptoms demanded it; and that the practice was most decidedly beneficial. He ascribes subsultus tendinum more frequently to the mal-administration of opium, than to any thing necessarily connected with the disease. He urges the frequent use of moderate emetics, and the interposition of gentle cathartics, not for the purpose of exhausting, but of unloading, relieving, and enlivening. He protests solemnly against the hurtful tendency of calomel, wine, and opium, as they are ordered by the majority of the present practitioners.

It might be supposed that the author would have concluded here his remarks on the epidemics of Vermont; but he goes further, and adds a chapter on pulmonary consumption; a disease, in the northern states of the union, more cruel, un pitying, and destructive than all the rest. He entitles it *febris pulmonalis*, or lung-fever; destroying from one fourth to a third of all the adult persons who die in temperate latitudes. In relation to this terrible malady, he lays down the following propositions: 1. That it is an endemic fever, afflicting the inhabitants, almost exclusively, in certain districts and countries. 2. It affects people of the most exquisite irritability of fibre. 3. It is a primary and idiopathic fever, having a locality in the lungs. 4. The assigned causes of consumption are not the real ones. 5. It has an elementary origin, in some measure, like other fevers of a general character and local tendency. 6. The treatment should be similar to that of other fevers; having regard to the permanency of the disease, the local affection, and the personalities of the patient. 7. The progress of the disease depends upon the state of the fever. 8. It becomes, therefore, of the first importance to use, assiduously, those remedies found by experience to be most effectual for the removal of fever. And his conclusion upon the whole is, that, if the action of the system can be reduced, by blood-letting and other remedies, below the point of morbid irritability, before excitability is exhausted, or the lungs too greatly injured, the patient may be restored; if otherwise, the

disease may be beyond human control. Very little reliance ought to be placed on setons or local bleeding. The disorder being constitutional, requires general remedies.

Venesection, begun early, and discreetly and perseveringly pursued, is his grand remedy. Emetics are useful auxiliaries. Cathartics may be given sparingly. The food should be agreeable, often repeated, and nutritious, without high stimulation. The exercises should be moderate, until the force of the disorder has been subdued; and then it is eminently serviceable, by equalizing the circulation, and removing the torpor of the skin and extremities. Hard labour has, occasionally, done remarkable service. Mucilages, syrups, and other *demulcents*, may be administered in every convenient form, to allay the irritation in the throat, larynx, and trachea. But it is not expected that they will do much towards a radical cure. Under a conviction that opiates are exceedingly injurious in fevers, he withholds them from pithisical patients, as being some of the most improper that are exhibited. They merely obtund sensation, without removing the cause; instead of rousing to care and exertion, they lull and deceive. Stimulating plasters of Burgundy pitch may be worn round the chest. *Digitalis* ought to be prescribed with care; given with proper precaution, it may be a good assistant: it must be remembered, however, that its power to cure consumption has been very unjustifiably overrated. Cures are not to be expected from the fox-glove. Salivation by mercury may be attempted in cases of long duration, and more especially in constitutions tainted by syphilitic virus; but, in both, it ought not to be long continued, and should be permitted to subside after the glands of the throat are very slightly affected. The use of the infusion of Seneca rattle-snake root, of the electuary of brimstone, and of elecampane and liquorice, and a decoction of Iceland moss, may all be advantageously ordered by a judicious attendant; as may a multitude of other medicines and aids. Dr. G. concurs with his fellow-citizens, that consumption is a very obstinate disease. It is by no means, however, to be pronounced *incurable*. Nine tenths of the failures should be ascribed to the perverse

ness of patients, and the delinquency of physicians. Dr. G. supports his opinion by a publication of four cases at length, wherein his plan has been successful, and in which reiterated bleeding, often free and copious, and sometimes under hectic emaciations and colliquative sweats, was the predominant remedy.

Thus we have given a sketch of the contents of this interesting book. We freely make the author our acknowledgments for the intelligence he possesses, and the frankness with which he communicates it. We admire the professional pride which makes him repel from medicine the term of a *conjectural art*; for although it is not likely, at any time, to become so completely scientific as to be above all conjecture and art, there is something of amusement and consolation in fancying that such a blessed period may arrive. And in like manner, we read, with smiling and complacency, the belief of Dr. G. (corresponding to that of the perfectibility of Mr. Godwin) that human life, by proper management, may be extended to the antediluvian length; but, on finishing his paragraph, we return to our wonted seriousness, on reflecting, with the psalmist, that "the days of our years are threescore years and ten; and if by reason of strength they be fourscore years, yet is their strength labour and sorrow: for it is soon cut off, and we fly away."

The Modern Practice of Physic: Exhibiting the Characters, Causes, Symptoms, Prognostic, Morbid Appearances, and improved Method of Treating the Diseases of all Climates. By ROBERT THOMAS, M. D. of Salisbury, England. The third American Edition. With an Appendix, by DAVID HOSACK, M. D. F. L. S. Professor of the Theory and Practice of Physic and Chemical Medicine in the University of the State of New-York. 8vo. pp. 836. Collins & Co. 1815.

THE practical and judicious work before us deserves, we should suppose, a more appropriate and honourable appellation than that of a *compilation*, as many Bri-

tish reviewers, it seems, have thought proper to bestow upon it. Nor would it be a safe criterion to judge of its merits by the number of editions it has undergone in London and New-York, should they be multiplied by motives of typographical enterprize, or of personal views. The author, in his comprehensive plan, has embraced all diseases, for which either ancient or modern practical observation furnishes a variety of remedies; and has adduced all the authorities he was possessed of. He has, indeed, executed an arduous task, unencumbered with ancient theories, or of systems of different nations and of celebrated names. His work, we believe, cannot be more defined a *compilation*, than the sermon of a sound preacher, who has sedulously compared all sacred authorities and their commentators, and thereby frequently recurs to the names of the fathers of the church, and of many illustrious divines. The fact is, that Dr. Thomas, in avoiding the danger of theories, many of which are calculated to retard the progress of knowledge, and to confuse simple and better doctrines, in proportion to the time they consume to wear out prejudices, notions, and controversies, has obtained his object, that of instructing practitioners; and has condensed for them, in this work, more facts, and more precepts for the management of diseases, than any modern medical writer that we have met with.

We must, however, remark, to give a proper test of the utility of this book, that we exclude it from the class of elaborate treatises, which, for scientific purposes, may be confined to few questions, but are more explanatory of physiological principles, and abundant in historical researches and observations. It is, indeed, a preferable plan for novices, after their elementary instruction, to study learned writers on separate subjects, and to analyze afterwards their doctrines with comparative observation and experience. Thomas wrote only for those whose judgment has been sufficiently exercised in discussion and arguments, and who are prepared for a decisive adoption of prudent measures, whilst engaged amidst numerous professional avocations, which surely put an end to medical studies, and when an error, inadvertently adopted, for want of recollection, might lay

the foundation of an unskilful and unsafe practice. As such, we do not hesitate to acknowledge that this work is an excellent guide, and an accurate remembrancer; conducted throughout with perspicuity, and with a dignified simplicity of style: although it embraces an immense variety of subjects, yet it is free from oppressive discussions, from literary exuberancy, and has no kind of fastidious appendage.

The first American edition of the *Modern Practice of Physic* was published in New-York, by Messrs. Collins & Perkins, in 1811, and was superintended by our much lamented friend and colleague, Dr. Edward Miller, Professor of the Practice of Medicine in the University of the State of New-York, and one of the Physicians of the New-York Hospital. He has added to it, in the form of an appendix, his celebrated report on the malignant disease which raged in the city of New-York in the autumn of 1805, addressed to the governor of the state. "The substance of this report, with additions, (says his biographer*) was subjoined to the American edition of Dr. Thomas' *Modern Practice*." An undue intrusion on the public, under the title and recommendation of a foreign work, should not be attributed to him, when it is recollected that the same report has been reprinted in Great-Britain, translated into the French and German languages, and inserted at large, by Mr. Dumeril, in his report on the Spanish epidemic of 1804, addressed to the Emperor of the French.

A second edition was soon found to be necessary, to answer the numerous demands for the works of Thomas and Miller.

The third edition is also from the house of Collins & Co. and is more improved than the two former, by the beauty of the type and quality of the paper. Besides a nosological and a pharmaceutical table, this large volume contains an appendix, by David Hosack, M. D. F. L. S. Professor of the Theory and Practice of Physic and Chemical Medicine in the University of the State of New-York; an analysis of which, we presume, will not be uninteresting to our readers.

* Vide Medical Works of Dr. Miller.

The first part of the appendix contains remarks on the nature and treatment of the typhoid state of fever, as not only related to the typhus fever, but to scarlatina, to peripneumonia typhoides, and other febrile diseases.

The author ascribes the deficiency of our acquaintance with the proximate cause of fever to our adherence to the various views, or hypotheses, of the best medical writers on fevers. One, as Boerhaave, is exclusive in attending to the humoral pathology; the other, as Cullen, establishing the principal cause of disease in the nervous system, loses sight of other parts of the human frame; and a host of other masters, Brown, Beddoes, Darwin, Rush, &c. and even Wilson and Fordyce, are not exempt from the charge of partial views, or of false doctrines. To guard against so many dangers of error in practice, the author offers his own views of fever in general, which is a disease of the whole fabric of the mind, as well as of the body, affecting the nervous fibres, the absorbent, circulating, and secreting systems of fluids and solids; at last an omnipresent, composed of symptoms variously combined, which, as a form of fever, depend either on the condition of the body in which it occurs, or on the causes from whence they proceed. None of these remote causes are inquired into, or defined, by the writer. In relation to the typhoid state of fever, he adds, that, by its continuation, and by inducing a vitiated state of the blood, it necessarily creates debility in the heart and arteries, in common with all the other parts of the system. Hence the power of the solids is wasted, and rendered more irritable; and, by the retention of the materials which should have been thrown out of the system as noxious, the circulating fluids, already become altered and vitiated, will still more affect the heart and arteries. These *proximate* causes, mutually operating upon each other, lead to the absolute exhaustion of the vital principle.

It is upon these general views of the typhoid state of fever that the author predicates his two indications:—
1st. To guard against the further waste of excitement, and to preserve the natural powers of the system. Diffusible stimuli and tonic remedies are obviously suggested to answer this indication; to wit, volatile alkali,

æther, wine, porter, yeast, bark, Virginia snake-root, bitters, and mineral acids. Here, he observes, that physicians in general do not discriminate between a *simple* and a *complicated* excitement. The last is a characteristic of typhoid fever; it is produced by an irritability in the heart and arteries, owing to their vitiated contents. Stimulants, therefore, are necessary. For the 2d indication we are directed to preserve the circulating fluids from morbid changes, by suitable antiseptic nourishment, and other means, which, besides evacuants, are lotions, fomentations, and a vegetable diet. The author reprobates, in typhus, the use of camphor, opium, musk, and digitalis, as narcotic and sedative medicines, which, he says, "are, by a strange misnomer, denominated stimulants." He forbids, also, the use of debilitating evacuants, as directed by Dr. Hamilton. To control an overbearing restlessness, occasional anodynes are recommended, instead of an indiscriminate use of opium, and of a certain fashionable *camphorated julep*, of all which he has, he believes, witnessed the fatal effects. An unequivocal testimony in favour of the success of this theory and practice, terminates this part of the appendix. Vide a dissertation on Typhus Mitior, by Dr. Moses Willard, in the Medical Repository, vol. ii. p. 103, 133.

The second part is wholly relative to the yellow fever, and other pestilential diseases, the contagious nature of which the author restricts and defines, according to a new hypothesis, never before discussed in this part of the world.* We agree with him, that his view of the subject narrowly contracts the controversy upon the much contested specific poison of pestilential diseases. It has also the happy effect of drawing into one bearing and coincidence of theory, many of the best arguments and facts formerly held forth against the contagionists, and which were, by them, incessantly invalidated and rejected; while, from the same, a great authority is now derived to attribute, to local impurities and atmospheric causes, all

* The author addressed this subject to Dr. Chisholm, in 1808. The same has been inserted in the Edinburgh Medical and Surgical Journal, vol. i. and in the American Medical and Philosophical Register, vol. ii. and in the 1st vol. of the Transactions of the New-York Philosophical and Literary Society.

pestilential influence in diffusing plague and yellow fever. With a candour, commensurate to the disposition we cherish, to investigate *all rational* views and facts which, in this appendix, (p. 806) are supposed to have misled the editors of the Medical Repository, we must be permitted to present to our readers a summary of this important essay.

The author thinks, 1stly, that a distinction of contagious and infectious diseases is fallacious. Of all those that are communicable from one person to another, he makes three classes, differing only by the laws of their communication.

The first class comprises those which require *contact* exclusively, as *itch*, *syphilis*, *hydrophobia*, &c.; their poison, therefore, is not diffused nor *diluted* in the atmosphere.

The second class embraces diseases which can be communicated through the atmosphere, *pure or impure*, in every season and climate. These are, also, contagious by *contact*, and at a near approach to the sick. Such are the *meazles*, the *small-pox*, the *scarlet-fever*, &c. It is to be remembered that this second class rarely infects any body more than once in life.

Diseases of the third class are not said to be contagious by *contact*, nor at a near approach to the sick. They are only communicable through the medium of an impure atmosphere, whether this is rendered so by putrid animal and vegetable substances, or by concentrated human effluvia. In *pure* air they are not usually *contagious*, or very rarely so; (at any rate, we may safely infer that they are seldom to be dreaded as contagious by contact, or at a near approach of the sick.) In this class are included the plague, dysentery, typhus fever in its various forms, and the *yellow fever*.

To account for the *contagion* that is thus rendered so active by impure air, the author states that the atmosphere, being impregnated by the peculiar virus of plague, or yellow-fever, for instance, it becomes *assimilated* to the poison, or ferment introduced, and thereby is rendered capable of reproducing *plague* or *yellow-fever*, (p. 793.) He waves, however, any inquiry into the properties of the contagious principle, or of the chemical qualities

of the atmosphere, by which this phenomenon, or absolute transformation of one substance into another, is effected. He candidly acknowledges that Dr. Chisholm did, in 1809, express his disapprobation of this hypothesis, although he had declared, "that a peculiar state of air is absolutely necessary to establish the power of contagion," (p. 709.) This state might be heat and moisture, or both together; and, however wrong Dr. Chisholm has been to eneroach upon the ground of non-contagionists, we absolve him, we must confess, from an attempt to multiply a generative process in the air, a key to the old story of animaleculi, or of occult qualities; and, as Aristotle says, *Chimæra bombinans in vacuo*.

The author then undertakes a learned history of each disease which is communicable only in a foul atmosphere, and which embraces copious facts, especially those which were heretofore pointed out by the non-contagionists, in relation to impure effluvia, or to a morbid constitution of the air; and to the irregular, suspended, or arrested progress of diseases, as contagious *per se*, according to times, winds, and places. The non-contagionists should think it an honour that their own weapons are thus reciprocally and kindly used, without ill-intent or mischief, provided they are finally restored to the combatants whom they originally better fitted.

In the progress of his history, and in the article of the yellow fever of 1798, in New-York, we remark a singular exception to the general laws advanced in the appendix: It is, that although air is rendered impure by the decomposition of vegetable and animal substances, (p. 815); and although at its prevalence many sources were pointed out of highly offensive vapours, from putrid salt provisions, and by the intervention of continued heavy rains, the author endeavours to prove, that the disease had spread before those causes had taken their effect; and that, in no instance, was it known that a great quantity of damaged beef, when examined, had disposed the atmosphere to the diffusion of contagion. Another exception also is, that a pestilential poison ceases to propagate itself when sufficiently diluted in the atmosphere, (p. 806.) But, then, is not the same law applied to the primordial impurities of the air, before their

generative process has taken place, by the fecundation of pestilential virus? We would rather believe that they could as soon be *diluted* into immense columns of air, as we see every day, and in an instant, dark bodies of smoke, offensive currents of vapours, even clouds, mists, and fogs, dispelled in the vast regions of an immensurable space.

The last, and not the least interesting question introduced in the appendix, is relative to the *modus operandi* of the impure air, which diffuses and multiplies *plague, dysentery, typhus and yellow fever*. It appears that Dr. Chisholm, an uniform and unshaken contagionist, has unguardedly meddled with this subject, by acknowledging that the *contagious* yellow fever was certainly rendered more violent under the circumstance of an impure atmosphere; but, he adds, that its violence does not proceed from any action of the air upon the peculiar virus of these diseases; it only renders the system of the healthy person, who receives it from the sick, more susceptible at the moment of its introduction, (p. 808.) Here the parties are at issue; for although the author of the new theory concedes, that a want of oxygene in the atmosphere, the presence in it of mephitic materials, and confined secretions of the human body, can actually vitiate the mass of circulating fluids, impair the functions of the nervous system, and that then febrile diseases will acquire an extraordinary degree of malignancy; yet he refuses to acknowledge that this condition of the atmosphere and of the human system, increases the *susceptibility* of the last, so as to make it sooner acted upon by the virus of the contagious diseases. Now, to prove all this, many facts, perfectly known to all parties, are adduced. These show, that, by the force of habit, many persons may become accustomed and seasoned to an impure state of the air, and are not readily infected; they will even escape the worst pestilences; therefore, it is concluded that that impure air which is necessary to propagate contagion does not operate, as Dr. Chisholm supposes, by increasing the *susceptibility* of the system to the action of the poison introduced; but that it must be, no doubt, by some chemical combination of the peculiar virus exhaled from the body with the atmosphere.

or by *assimilation*, (say generation,) that the poison or contagion becomes more or less multiplied. The precise nature of this process, we have said, is not defined by the author. An attempt towards it, however, deserves our attention. It is not a *tertium quid*, as Dr. Adams, of London, thinks; but it is only a multiplication of the virus, very analogous to that of the small-pox and syphilis, in the human body, or like a process of fermentation in animated matter, &c. We beg leave to reject any such reasoning in natural philosophy, or any such inference or comparison from physiology or pathology; and *vice versa*.

Facts, illustrative of the *fermentative process* contended for, have been observed when the yellow fever has prevailed in the cities of the United States. It diffused itself in proportion to fermentable materials. Heat and moisture increased their activity, and the approach of frost rendered the process inert. Sometimes, for want of the *fermentative process*, the yellow fever did not extend beyond the individuals who introduced it. Hence, again, after its introduction, a pause of many days or weeks has taken place before it made any progress, and its extension has been slow and gradual. In fine, upon several occasions its boundaries could be accurately defined by our board of health, who were well informed of the presence of the fomes, or of the locality of the fermentative process favourable to the propagation of the poison.

Let the reader be pleased to alter one or two words of this account, and be reminded that it may, verbatim, be the theme of the non-contagionists.

The last argument in favour of this *modus operandi* of impure air, or imported contagion, is derived from the modern processes of disinfecting the air by means of the fumes of the acetic acid, the oxymuriatic acid gas, the nitric and sulphuric acid vapours. We are not, however, presented with any arguments illustrative of success, or claiming the least degree of confidence in these fumigations, the fallacy and delusions of which are demonstrated in the preceding pages.

Whatever may be our opinion on these various topics, or our dissenting dispositions, we certainly feel very

happy in expressing our respect for the ingenuity and erudition displayed in the above essay; equally interesting by instructive notes, as it is by literary applications. We are willing, also, that, for the benefit of commerce and of mankind, consistently with the above doctrine, we should be governed by facts, and facts alone, and not by theories. Since all serious impression of danger from imported contagion is removed, as it is not operative by contact, or at a near approach of the sick, unless under the agency of impure air, let so much of our quarantine laws be done away, as sequestrate ships, men, and goods, even in pure air. Let those laws consist only of efficient measures for cleansing and purifying foreign vessels, for ventilating corruptible goods, and for the removal of all domestic nuisances.

An ESSAY on the EPIDEMICS of the Winters of 1813 and 1814, in Talbot and Queen-Anne Counties, in the State of Maryland. By ENNALS MARTIN, M. D. Practitioner of Medicine in Easton, Maryland. 8vo. pp. 78. Baltimore. Robinson. 1815.

IN a dedication, filled with respectful and enthusiastic eulogy on the learned author of a "Brief History of Epidemic and Pestilential Diseases," &c. Dr. Martin informs his readers that he commenced the practice of physic in 1783, fully persuaded that the doctrines of Cullen were infallible, and as true as Holy Writ; that he was forced, by the fatal effects of erroneous practice, to relinquish his favourite system, and its untenable hypotheses; that the notion of contagion and infection, in the ordinary epidemics of our country, is whimsical and puerile; and that thousands of human lives would be saved yearly, if every practising physician, at home and abroad, was obliged to peruse, annually, the above mentioned work of Mr. Webster.

A short preface contains the sentiments of joy with which the author is enlivened, in having, during the epidemic of 1813, freed his mind from the shackles of sys-

tem, and having become an independent practiser, taught, by observation and experience, the great arts and duties of thinking and acting for himself; and, after deprecating the mischiefs of an erroneous education upon the mind of the prescriber and the health of his patients, he proceeds with his history of the distemper.

After a season more than usually healthy, the epidemic under consideration began to appear towards the end of December. It assumed the pneumonic type during the residue of the winter. The face was flushed from the beginning, and the head suffered so severely, that the disorder was commonly called the *head complaint*. There were remarkable torpor, insensibility, and coldness, especially of the feet, from the first attack.

The mortality consequent upon this epidemic was sore and grievous, throughout the district on the shore east of the Chesapeak, where Dr. M.'s principal practice lay; it visited almost every family, and bore one or more of its members to the grave. Alarmed and confounded at the ravages of the distemper, the author became convinced, by sad experience, that blood-letting, emetics, and cathartics, however fashionable, would not do; and he accordingly laid aside his lancet, his emetic tartar, and even his calomel and jalap.

By a series of observations, he, at length, discovered a method of treating the epidemic, which almost invariably assumed the form of pneumonia. This is described in the following words: "As soon as the patient (p. 47) was seized with chill or ague, it was absolutely necessary to have him put in a warm bed, after giving him forty or fifty drops of laudanum; to apply hot bricks to his feet, and, if occasion seemed to require it, to his sides, knees, and back; to dose him freely with hot teas of every kind every fifteen or twenty minutes; and, if the chill did not seem to give way, a little spirit was necessary to be added. It was no uncommon thing, if this treatment was commenced instantaneously, and properly persisted in, that a patient, who seemed to be threatened with death in a few hours, was perfectly relieved in as many; and all done by restoring heat to the surface of the body, and, by sympathy, to the lungs, which were enabled to renew their functions by this simple method. But, it is

to be lamented that few were so fortunate as to be put under this treatment in such good time. For although it had been sounded, from the overflowings of benevolence, that bleeding and purging were injurious, physicians, and the people themselves, would persist in destruction; so that after the correct treatment was generally understood, there were some that would go on as they had been taught, that is, *to kill by rule, and cure by chance.*"

The author makes a quotation of some length from the History of the Malignant Distempers which raged in Sussex County, Delaware, during 1775. (see Medical Repository. vol. xiii. p. 105); and considers it as containing almost exactly the mode of treatment which was discovered to be correct in 1813.

He contends that there was something in the atmosphere of that particular section of country lying between Chester and Choptank rivers, which gave rise to this fatal malady. It was bounded by the extent of Talbot and Queen-Anne counties. He derives the remote cause, not from contagion, infection, and miasmata, but from the bowels of the earth, consequent upon the great commotions which preceded and accompanied the disease in these parts of North-America, and discharged their mephitic among the people. This subterranean eruption operated, he supposes, by depriving the atmosphere of a portion of its vital air or principle. By this means a disease *sui generis* was produced by the *negative* effect of an atmosphere deprived, in some measure, of its life-sustaining virtue, and not by any positive quality it possessed. Under the agency of such a remote cause, cold, fear, and the depressing passions, intemperance, and extreme abstinence, might be readily conceived to excite the disorder.

On the subject of predisposing and occasional causes, however, so much has been already offered in the preceding article, that we shall not enter a new into the discussion. It is of comparatively small moment, what are the doctrinal or speculative opinions entertained by physicians, provided their practice is sound and good; and whether they believe diseases to have been caused, as Van Helmont said) by the *blas* (one of his words) shed upon mankind from the stars and luminaries above, or

by the *gas* (another of them) emanating from the dark strata and caverns below, is a matter of secondary concern. That vapours arose, and, in many places, copiously too, during the earthquakes of 1812, is proved by very strong evidence, as may be seen in the history of those extensive commotions, printed in the fifth volume of the *New-York Literary and Philosophical Transactions*, (p. 306.) It remains to be shown that they contain deleterious qualities. Whether they taint the atmosphere with a noxious influence? whether subterranean ignition produces exhalation or smoke, materially different from fiery action above ground? whether more oxygene is consumed, so as to exhaust the vital portion of the atmosphere, and to leave it too azotic? and whether, in short, such alterations can predispose to epidemic peripneumonies and other popular diseases? We shall rejoice on finding that inquiries continue to be made for the purpose of resolving all these questions.

For Dr. M.'s observations on the uncertainty of judging by the pulse, (p. 18); on the almost icy-coldness of the extremities, especially of the feet, (p. 17-18); on the tendency of the lymph to stagnate in the cellular membrane, (p. 15-52); on the extension of the disease, during 1814, beyond its former territorial limits, (p. 72); on the destruction of five hundred lives, in a population of fifteen thousand souls, during the term of five months, (p. 62-63); and on the injury done to medical science by the belief that epidemic diseases are contagious, (p. 20)—we must refer to the original publication; remarking, however, on closing it, that it is worthy a place in the library of every studious physician.

Medical & Surgical Correspondence.

Case of suspended Secretion of Urine, by Dr. VINE UTLEY, of Lyme, New-London County, Connecticut : In a Letter addressed to the Editors of the Medical Repository, September 28th, 1815.

THIS well observed case is the more interesting in a practical point of view, that, with a like train of symptoms, a similar complaint may pass unnoticed under the common denomination of fever, and more surely lose the chance of an inquisitive and persevering attention, or of a curative application.

The subject was a woman of middle age, the mother of several children, of a lean and spare habit of body, of a pallid countenance, of a jaundiced hue, and probably of a melancholic temperament, as it was formerly called.

That we may reasonably suppose the existence of a remote or of a predisposing cause in the urinary organs, we are informed that, at a *not very distant period of time*, this patient had experienced a violent paroxysm of pains in the kidneys, with an interruption of urinary discharges, when she took notice herself of her urine being loaded with a gelatinous ropy matter, similar to the white of an egg. She had laboured very hard, it is said, previous to her attack, and was exposed to extreme cold weather, when she was seized with excruciating pains about the region of the kidney on the right side. Its violence was attended with incessant puking. The pain would dart from the loins into the back, creating cold chills; and she could not lie on her right side a moment without vomiting; but she threw up no bile. At the first invasion, her pulse was reduced to sixty-four beats in a minute.

With close and diligent attention to the most prominent symptoms, Dr. Utley devised means and remedies

which obtained their abatement, with various success. Depletion by venesection, drastic mixture, and epispastics, preceded the use of diffusible stimuli, of opium principally, and of diuretics. These raised the pulse to ninety, and considerably diminished her pains.

With the repetition or alternation of the same means and remedies, sometimes in large doses, and, during three days, the heat of the body and the pulse were kept at a favourable standard, the pains were considerably relieved; but the vomitings were at times distressing, and the urinary secretion remained suspended. On the fourth day of the disease the patient had voided nothing but half a pint of water, probably collected in the bladder before the attack. It was proper, at this period, to attempt catheterism, although it could not be supposed to afford but an indirect relief to the standing disease: no obstruction, and not a drop of water could be found by the operation. The physician was now placed in the dilemma of an obstruction in the ureters, or of a suspended urinary secretion in the kidneys, and must place his reliance on opium, cathartics, diuretics, fomentations of different kinds, and on the warm bath. Unfortunately, the patient would not submit to the latter, and thereby her miseries were prolonged. Diffusible stimuli could not prevent her from sinking into the arms of death. Only for want of strength her vomitings were moderated; the pulse and heat of the body were sensibly lowering, and her pallid and bloated countenance was bespeaking a sorrowful tale, when she was persuaded to immerse her body in a warm bath of 100° Fahrenheit, where she remained half an hour. She had previously renewed her doses of theb. tinc. and now she received no further remedy than a warm infusion of the *salvia officinalis*, or English sage; and she soon began to discharge urine, a pint at a time, and at every half hour; she did not cease before night, when she had filled the almost incredible measure of three gallons and upwards; in the meantime, she had a regular alvine evacuation, the vomiting stopped, her appetite for food returned, and she ate with great relish.

The succeeding period of convalescence, which lasted only five days, offered a few incidents by no means com-

mensurate to the violent symptoms the patient had suffered. Her stomach remained sometimes tender and painful, her abdomen tumefied, and diarrhœa ensued; but, with appropriate remedies, the use of tonics, and a vegetable diet, she soon regained her usual state of health.

REMARKS.

Our correspondent, who has particularly noticed the tumefaction of the bowels, after so considerable a discharge of urine, and whose circumstantial narrative of the above case we have taken the liberty of condensing, does not leave us the least reason to suppose that there had been previously a collection of water in the bladder, or in the abdomen. However rapidly, therefore, the secretion of so large a quantity of urine must have been effected, it is no less evident and conclusive that the mass of circulating fluids was charged with it during six days. The critical resolution of many acute diseases is, in a great degree, and frequently, effected in the human body by the same phenomenon: hence, since the days of Hippocrates, and through all the renowned medical sages, the doctrine has prevailed, of a copious flow of urine being a critical and safe resolution of many acute synochal fevers and phlegmasiæ, although there has been no previous effusion or collection of water in any of the abdominal cavities. Another instructive observation, in this case, is relative to the use of opium, the stimulant and tonic power of which is evidently proved, by having kept up the pulse of the patient to eighty and ninety beats during the worst stages of the disease, and from the low standard of sixty-four at the onset of it. Any modern doctrine, therefore, which, in spite of so many proofs to the contrary, would transform opium into a sedative exclusively, is incorrect and unfounded. This female patient derived from it much alleviation of pain, and daily recruited her spent energy; by a liberal exhibition of it, she could support circulation at seventy pulsations in a minute. Nor does the judgment of Dr. Utley, who administered frequent cathartics and powerful drastics, imply any inconsistency with his reliance on opi-

um. It may appear, in ordinary practice, that it checks alvine evacuations; but, inasmuch as a due regard is paid to the respective proportions of these two powerful medical agents, the tonic and energetic powers of the one may be controlled by the other, while the first wards off the debilitating and prostrating effects of the latter.

Case of a Calculous Peripneumonia, attended with Expectoration of stony Concretions: Communicated by Dr. JOHN GIBSON, of Warrenton, Mississippi Territory, June 10, 1815.

THIS was the case of a youth of about eighteen years of age, well grown, stout made, and of a robust habit. He had first laboured under a distressing cutaneous eruption; for the cure of which he had rubbed his body with much mercurial ointment. He was not completely cured when an impure connexion took place, which created a great difficulty in discharging urine, while he was afflicted by violent cough, and pain in the breast. He aggravated this critical situation by the use of improper remedies, as advised by a vender of nostrums, and was at last rescued from more impending danger, when our correspondent took charge of his treatment. He found him attacked with a high fever, strong and hard pulse, pain in the breast, and particularly so in the left side, difficult respiration, dry painful cough, tongue of a dark brown colour, and great pain in discharging his urine, so as to make him shed tears in the attempt; and which deposited a gelatinous matter.

We will not follow the case through all the stages of its severe paroxysms; suffice it to say, that, after the ordeal of repeated bleeding, vesicatories, and alterative medicines, "the patient," says Dr. G. "still had fever, with dry and parched skin; he coughed up some matter—the difficulty in breathing, however, continued unabated, and I was wholly unable to account for it. I

bled to the usual quantity, and ordered the warm bath; which seemed to relax every muscle of the body. He did sweat for the first time generally; and immediately after coming from the bath he commenced coughing violently; and, in the act of coughing, threw up some calcarious concretions; they sounded like small pebbles dropped on the floor. I found one of the stones, about the size of a common buck-shot, involved in pus. It had a grey appearance, and I supposed it to be composed of phosphoric acid and lime. Owing to my situation, I was unable to make any experiments on it. It was shown to a number of people, and unfortunately lost in circulating it about. After he coughed up these stones he brought up a great deal of bloody matter. I ordered a decoction of lichen islandicus, which completed the cure. The young man is now very well, and grown to be a stout man, having enjoyed unabated health ever since."

REMARKS.

We have noticed, in our vol. i. page 368, that there were but a few cavities, or parts of the human body, which had not become, by the effect of disease, the seat of earthy concretions. That the lungs are subject to that peculiar kind of lesion, or of calcarious deposits, there is now scarcely any doubt, from the many instances which have come to our knowledge; two of which were before recorded in the *Medical Repository*. (Vide vols. vi. and xvii.) Another proof that this is not a new disease, we derive from the celebrated work on *Pulmonary Consumption*, by G. L. Bayle, of Paris, as reviewed in our first vol. new series. This author establishes six different kinds of phthisis; among which he characterizes the fifth by the name of *Calculous Consumption*. He acknowledges that these earthy concretions are formed in the aerial vesicles of the lungs; that, by analysis, they prove to be phosphate of lime. So strange a disease he does not think to be controllable by medicaments: he looks for palliative relief, and prognosticates certain death. It is remarkable, that to such respectable a decision as that of Monsieur Bayle, our work should offer no less than three cases of recovery from *calculous pulmo-*

nary consumption, after the discharge of its stony concretions. Let us infer, that the numerous dissections which led the author to his conclusion, could by no means determine what favourable changes may eventually take place in the worst kind of organic diseases, when they can be assisted by youth, by strong constitution, and by judicious treatment.

Case of an extraordinary Quantity of Worms issued from the Nasal Cavities: Extracted from the Inaugural Essay of ABEL BRANDIN, D. M. of the Faculty of Paris, Surgeon of the first Class, 1809.

FRANCIS GUILAIN, officer in the third brigade of General Le Clerc, in Hispaniola, had reached the thirty-sixth year of his age, with a good constitution, but lately enfeebled by seven months residence in the island, and by ordinary attacks of illness.

In the beginning of February he often experienced much irritation in the nasal cavities, and very troublesome prickings; they were felt principally at the upper part, and under the frontal sinuses; they were renewed at the interval of four or five days.

His face became turgid, his complexion discoloured, his voice hoarse, his respiration difficult, was all over uneasy, much deprived of sleep, and lost his appetite; his nose swelled, and, in the upper part, was red and inflamed; a thick and fetid mucus lined the nostrils, and issued from them, carrying with it a great many small worms. These might be from one half to one sixth of an inch in length, and somewhat less than a tenth in thickness; they were conical, with an obtuse and enlarged posterior extremity, which presented an orifice that could admit the head of a pin, and to which two dark lines, from the middle and under the body, were extended. The exterior extremity was terminated like a sharp pointed sucker. With a magnifying glass no legs nor rings could be perceived. The colour was greyish

white; but some were reddish, and with this colour they were endued with less life and motion.

With a view to promote the expulsion of these worms, the surgeon prescribed fumigations of camphorated vinegar, and frequent injections of aromatic infusions, of olive oil, of cinchona, and of tincture of aloes.

On the third day of the admission of this gentleman into the hospital, his bodily uneasiness and restlessness were inexpressible; for he dared not to rest or sleep, as he fancied the worms were falling from the back nostrils into the throat, and that he might be choaked. He never sat on the fourth day, but to take his injections and fumigations, and twenty worms were discharged.

On the fifth the nose was of a shining red inflamed colour. The worms had made an external aperture between the inferior edge of the *ossa propria* and of the cartilaginous plate; six or eight of them issued from it, while more than forty actually fell, by the *posterior nares*, into the pharynx, and the patient could hardly speak.

Shortly after the aperture showed a disposition to heal, forming a depression on the spot, and a small ulcer was observed on the left side of the gullet. He complained, also of a constriction of the throat, as if worms were accumulating there. He soon conceived that they were descending into the stomach, where he felt them *pricking* and *gnawing*. Having been ordered to take some snuff, the schneiderian membrane was not at all affected; and as he could swallow neither solids nor fluids, he was thought to be in an alarming condition.

The most urgent indication was now to afford nutriment, for he was nearly exhausted for want of it; but it became necessary to exhibit it by enemata, and in a liquid form; consequently, and in order also to shake or open the nasal cavities, and the pharynx, antimoniated tartar was introduced, which excited vomiting, but mostly operated downwards. Many worms were discharged; the patient was better, and could, at last, obtain some rest.

On the ninth day it was hoped no more worms would appear. M. Guilain had recovered both the power and appetite for eating, which was indulged in, with the addition of some wine.

The tenth day showed a depression in the middle of the nose, through which blowing and respiring were easily effected. The voice remained a little impaired, with a nasal sound; in other respects his deglutition was perfectly free. The cure was completed by the continuation of some astringent injections, after having discharged one hundred and fifty worms.

By way of experiment, several of them were enclosed into a glass receiver, and, thirteen hours after, they were yet alive. Many others were put in contact with olive oil; during six hours after the greater number were agitated with strong motions, and a few were dead. The next day the first were torpid; but being taken from the oil, and carefully wiped off, they were re-animated, and soon after died.

The worms did not seem to adhere to, nor feed on fresh or putrid meat exposed to heat. They could instantly be made torpid by the contact of cool glass. Lieutaud says—"Ice promptly kills all intestinal worms." Such an experiment could not be made at Cape Français.

REMARKS.

The following remarks are added, by the author, to this interesting case.

1st. The subject had no visible predisposition to this strange malady; he had no syphilitic complaint; no ozæna, nor any previous ulcer in the nasal cavities. He had frequently been obliged to wash his face, in camps, with stagnant and muddy waters. Could this have been the means of introducing into the nasal cavities these worms, or their eggs? We answer, It is not improbable.

2d. Two cases of the same nature have been heard of by the same observer, and in the same island, of which he had not the means of ascertaining the particulars.

3d. He rejects the opinion of Littre, who supposes that worms may, from aliments, be admitted into the circulation, be deposited in certain parts, and, in this case, must have pierced through the *cribriform plate*.

He dissents, also, from the belief of a direct operation of the air, in certain countries.

4th. In a similar case he prefers the mercurial fumigations of red precipitate, and of the nicotiana, to any other.

A Case of Epidrosis Lateralis: Communicated by Dr. JOHN EBERLE, M. D. of Lancaster, Pennsylvania.

IT being, doubtless, as interesting to the student of the animal economy to become acquainted with the anomalous phenomena of health, as with those of disease, I will, in a few words, relate a case of *lateral sweating*, which has subsisted in my own person for upwards of six years.

In the summer of 1809 I first observed, that, on the slightest exercise, the right part of my forehead was covered with perspiration, while the left side was either perfectly dry, or only a little soft with the insensible perspiration. Not long after having noticed this appearance, I found that the irregularity, or rather the *unilateral* irruption of the perspiration became more remarkable. I now found that the sweat broke out along the right side of the head, neck, and breast; and it finally occupied the *whole right side of my body*. The left side is, however, not entirely devoid of the perspiratory functions. When the sweat is distilling copiously from my right side, the left side is generally moist. My general health has been always good; my habits of living temperate. The pupil of my *left eye* is constantly dilated; it is very considerably larger than in the right eye. The sight of both eyes is equally good. I am hardly ever troubled with pain in the head, nor with vertigo, nor a preternatural disposition to sleep. What can be the cause of this irregularity in the perspiratory functions? Could compression in one of the ventricles produce this effect? PETER IMMANUEL HARTMAN, (*Diss. de sudore unius Lateris, Hal. 1757*) mentions cases of this kind, which,

however, to have been connected with morbid states of the system. Similar *partial* actions in the *lymphatic* system are mentioned by authors. Dr. Rush had a patient, in the summer of 1808, whom he salivated twice for a venereal affection. The last time the salivation took place, only one side of his body was affected with the mercury; and, so perfectly defined was it in its extent, that half of the penis was cured, while the other half remained diseased. Richerand, in his *Physiology*, mentions a remarkable case of the same kind.

A Double Consciousness, or a Duality of Person in the same Individual: From a Communication of Dr. MITCHILL to the Reverend Dr. NOTT, President of Union College. Dated January 16, 1816.

WHEN I was employed, early in December, 1815, with several other gentlemen, in doing the duty of a visitor to the United States Military Academy at West-Point, a very extraordinary case of *double consciousness*, in a woman, was related to me by one of the professors. Major Ellicot, who so worthily occupies the mathematical chair in that seminary, vouched for the correctness of the following narrative, the subject of which is related to him by blood, and, at this time, an inhabitant of one of the western counties of Pennsylvania:—

Miss R— possessed naturally a very good constitution, and arrived to adult age without having it impaired by disease. She possessed an excellent capacity, and had enjoyed fair opportunities to acquire knowledge. Besides the domestic arts and social attainments, she had improved her mind by reading and conversation, and was well versed in penmanship. Her memory was capacious, and stored with a copious stock of ideas.

Unexpectedly, and without any kind of forewarning, she fell into a profound sleep, which continued several hours beyond the ordinary term. On waking, she was discovered to have lost every trait of acquired know-

ledge. Her memory was *tabula rasa* ; all vestiges, both of words and of things, were obliterated and gone. It was found necessary for her to learn every thing again. She even acquired, by new efforts, the arts of spelling, reading, writing, and calculating, and gradually became acquainted with the persons and objects around, like a being for the first time brought into the world. In these exercises she made considerable proficiency.

But, after a few months, another fit of somnolency invaded her. On rousing from it, she found herself restored to the state she was before the first paroxysm ; but was wholly ignorant of every event and occurrence that had befallen her afterwards. The former condition of her existence she now calls the *old* state, and the latter the *new* state ; and she is as unconscious of her *double* character as two distinct persons are of their respective separate natures.

For example, in her *old* state she possesses all her original knowledge ; in her *new* state only what she has acquired since. If a gentleman or lady be introduced to her in the *old* state, she will not know that person in the *new* state, and *vice versa* ; and so of all other matters. To know them satisfactorily, she must learn them in *both* states.

In the *old* state she possesses fine powers of penmanship ; while, in the *new*, she writes a poor and awkward hand, having not had time or means to become expert.

During four years and upwards, she has undergone periodical transitions from one of these states to the other. The alternations are always consequent upon a long and sound sleep. Both the lady and her family are now capable of conducting the affair without embarrassment. By simply knowing whether she is in the *old* or the *new* state, they regulate the intercourse, and govern themselves accordingly.

My learned friend, the Reverend Timothy Alden, of Meadville, knows Miss R—, and is engaged in drawing up the history of her curious case, and he has promised, in due time, so send it to me complete.

ZOOLOGY.

The Original Inhabitants of America consisted of the same Races with the Malays of Australasia, and the Tatars of the North.

[With a Figure.]

THE information we derived from Messrs. Cassedy and Miller, of Tennessee, relative to the human bodies found in a copperas cave, near the Cany Branch of the Cumberland river, was very curious. (*Medical Repository*, vol. xv. p. 147). Pieces of the cloths which inwrapped them are now preserved in Mr. Scudder's Museum; and an exsiccated foot is also there. One piece of the fabric is plain, and the other decorated with feathers.

Since that time other discoveries have been made. Thomas B. Monroe, Esq. during the year 1814, sent to New-York an entire body, found in a saltpetrous cave, in the neighbourhood of Glasgow, in Kentucky. This was in the state of a dried preparation, in a squatting posture, with the right hand encircling the knee; it was wrapped in deer-skins and artificial cloths. The latter are of two kinds—plain, and decorated with feathers. These pieces of antiquity were described in a letter written by Dr. Mitchill to Mr. Burnside, Secretary to the American Antiquarian Society, and recorded in the *Analectick Magazine*, for September, 1815. Through the politeness of Hickson C. Field, Esq. we have been permitted to take a drawing of this relic of a former people. The representations, both of the body and of the cloths infolding it, were executed by that distinguished naturalist, C. S. Rafinesque, Esq.

The fabrics accompanying the Kentucky bodies resembled very nearly those which encircled the mummies of

Tennessee. On comparing the two sets of samples, they were ascertained to be as much alike as two pieces of dimity or diaper from different manufactories.

Other antiquities of the same class have come to light. Mr. Gratz, of Philadelphia, the proprietor of the vast cavern figured and described in the *Medical Repository*, vol. xvii. p. 391-693, has, very obligingly, sent to Dr. Mitchill other specimens of cloths, things made of those cloths, and raw materials, dug out of that unparalleled natural excavation. He forwarded, with the samples, a map of the cave, substantially like that which we had received before from Mr. Bogert; and confirming every thing therein stated. A parcel of these articles, now in Dr. Mitchill's possession, was accompanied with the following note—"There will be found in this bundle two mockasons, in the same state they were when dug out of the Mammoth Cave, about two hundred yards from its mouth. Upon examination, it will be perceived that they are fabricated out of different materials; one is supposed to be made of a species of *flag*, or *lily*, which grows in the southern parts of Kentucky; the other of the bark of some tree, probably the *pappaw*.

"There are, also, in this packet, a part of what is supposed to be a *kinniconecke* pouch, two meshes of a fishing-net, and a piece of what we suppose to be the raw material, and of which the fishing net, the pouch, and one of the mockasons are made. All of which were dug out of the Mammoth Cave, nine or ten feet under ground; that is, below the surface or floor of the cavern. You will find, likewise, two Indian beads, discovered in a cave, situated in the vicinity of the Mammoth Cave.

"We have, also, an Indian bowl, or cup, containing about a pint, cut out of wood, found also in the cave; and lately there has been dug out of it the skeleton of a human body, enveloped in a matting similar to that of the *kinniconecke* pouch."

This matting is substantially like those of the plain fabric, from the copperas cave of Tennessee, and the saltpetrous cavern, near Glasgow.

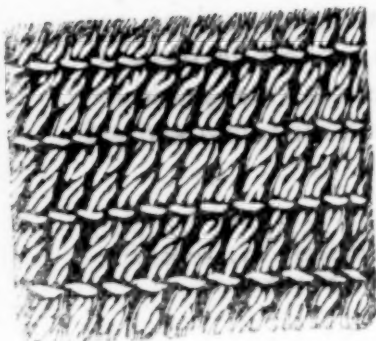
And, what is highly remarkable, and worthy the at-

INDIAN MUMMY.

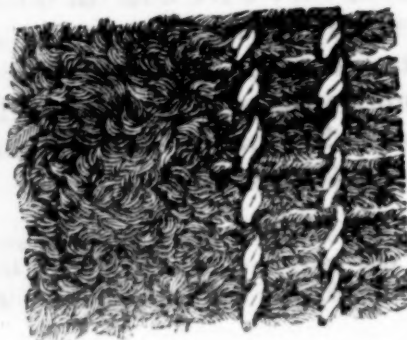


Scale of one Foot.

A



B



To face page 189.

tion of every antiquarian, is, that they all have a perfect resemblance to the fabrics of the Sandwich, the Caroline, and the Feejee islands.

We know the similitude of the manufactured articles from the following circumstance:—After the termination of the war in the island of Toconroba, wherein certain citizens of the United States were engaged as principals or allies, many articles of Feejee manufacture were brought to New-York by the victors. Some of them agree almost exactly with the fabrics discovered in Kentucky and Tennessee. They bear, on strict comparison, the marks of a similar state of the arts, and point strongly to a sameness of origin in the respective people that prepared them. Notwithstanding the distance of their several residences, at the present time, it is impossible not to look back to the common ancestry of the Malays who formerly possessed the country between the Alleghany mountains and the river Mississippi, and those who now inhabit the islands of the Pacific ocean.

All these considerations lead to the belief, that colonies of Australasians, or Malays, landed in North-America, and penetrated across the continent, to the region lying between the Great Lakes and the Gulph of Mexico. There they resided, and constructed the fortifications, mounds, and other ancient structures, which every person who beholds them admires.

What has become of them? They have probably been overcome by the more warlike and ferocious hordes that entered our hemisphere from the north-east of Asia. These Tatars of the higher latitudes have issued from the great hive of nations, and desolated, in the course of their migrations, the southern tribes of America, as they have done to those of Asia and Europe. The greater part of the present American natives are of the Tatar stock, the descendants of the hardy warriors who destroyed the weaker Malays that preceded them. An individual of their exterminated race now and then rises from the tomb.

The letter A, in the annexed plate, shows the texture of the plain cloth; B, the wrapper, decorated with brown feathers; substances of an irregular figure, and less extensive than a square yard.

INTELLIGENCE.

Atmospheric Constitution, Diseases, and Bills of Mortality in the City of New-York.

THE morbid constitution of the last autumn has been remarkable, by producing one epidemic in this district, and by exciting or aggravating many exanthematous diseases, in this populous metropolis. Before we describe them, we will endeavour to give our readers an idea of the violent atmospheric commotion which took place on an extensive range of the American coasts, immediately after the equinoxial period of September last. The following narrative, we beg leave to notice, is in perfect coincidence with the observations of Hippocrates. (Epid. Lib. 1.) “*Constitutio austrina aeris, ichores, pustulas et carbunculos generavit in Cranone.*”

In tracing the great currents of atmosphere in North-America, it is found that some of them begin to leeward, and others to windward. Storms from the north-east commonly begin in the south-west; as in the tempest which occurred in February, 1802, (Medical Repository, vol. v. p. 165-172), and the other that took place in December, 1811, (New-York Literary and Philosophical Transactions, vol. i. p. 331-340.) The terrible tornados from the south-east have been ascertained to commence their career in the south-east, as was the case which occurred in the southern states during September, 1804, (Medical Repository, vol. viii. p. 354-365.) We now record the leading facts of that memorable and destructive gale which invaded the eastern states on the 23d of September, 1815.

This most destructive gale began at Boston, on Saturday, the 23d of September, at 9 A. M. from the E. the weather having been windy from 4. It shifted before 11 to S. E. and S.

At Providence, at about 8 in the morning of the 23d,

the wind shifted from N. E. to S. E. and blew a hurricane, overwhelming and destroying the town.

At Newport it began at 9, blowing S. E. by S.

At Salem the commencement was at 9 A. M. with the wind at S. E. having shifted to that point from the N. E.

Its duration was short—At Boston not more than five hours; for it had abated at 2 P. M. and the weather had become moderate at 6.

At Salem the sun appeared, with fair weather, before 3 P. M. about the same duration as at Boston.

At Newport it lasted about two hours and an half, and its violence then was chiefly over.

At Providence its fury raged until about noon, or a duration of three hours.

Captain French, who sailed from New-York for Charleston, was in latitude 33° , and longitude $74^{\circ}, 55'$, when the gale struck him. This was on the 23d, at 6 A. M. and it blew violently until 7 in the evening, tearing his rigging to pieces, driving a wave on board, and drowning several of his crew. This gale began to windward. This opinion is confirmed by the facts which follow:

On the 22d there was a tremendous hurricane off Cape Hatteras, which split sails, carried away masts, forced waves on board of vessels, and caused great loss and damage. And the information from Newbern, in North-Carolina, of the 23d, was, that the storm had caused a rise in the tide five feet higher than was remembered by the oldest persons living, and had destroyed the salt works, crops, and stock, extensively along the coast.

The saltness of the atmosphere, and the transportation of the oceanic fluid, by the wind, are remarkable.

Salem, September 27.

THE LATE STORM.

On Saturday last we had a violent gale of wind. It began about nine A. M. and was in its greatest fury about half past eleven. It began at S. E. and filled the air from the sea with a rain as briny as the ocean. At the time of its greatest violence the wind changed to S. W. and then did the greatest damage; it afterwards changed to S. S. W. and before 3 P. M. the sun appeared.

New-London, October 4, 1815.

PHENOMENA OF THE TEMPEST.

The brooks which run through this place continue to be brackish. Some wells in the country which afforded excellent water, have become brackish. It is stated, by persons of veracity, that several wells in this place which had a plenty of water previously, were nearly dry while the tempest raged.

It is supposed, by many persons in this city, that there was a shock of an earthquake during the storm.

Near Mr. Haughton's tavern, Montville, seven miles from this place, is a bridge of a single arch, built of heavy stone, over a small run of water. In the storm one side of the bridge gave way, not from the effect of water, there being but very little; and, what is very extraordinary, a stone, weighing several tons, was driven up the stream a rod in a direct line.

Such was the violence of the storm, that the large fishing rocks at Point-Judith were removed from the beds in which nature, perhaps, planted them. "*Mutationes temporum pariunt morbos, præsertim maximæ.*" Epid. lib. i. c. 4.

We are informed, that within a few days of the storm, our northern and eastern cities were severely visited by a catarrhal complaint. It soon reached this population with severity, and we have known since that it had not spared our southern and western states, with more or less aggravated symptoms. It commenced like common catarrhs are described, by the increased secretion of the nostrils, throat, and bronchiæ, of an abundant and aerid ichor, with a proportionate degree of fever and restlessness, during five, seven, and even nine days. Some would believe, at first, that it was an *influenza*, like that which prevailed during the autumn of 1806, in this city, and in England and France, at preceding periods. But, in all these instances, the epidemic chiefly affected the eyes with a flux of tears and ophthalmic symptoms, which have rarely or feebly appeared in the epidemic in question; it more commonly determined its effects on the respiratory organs, by dyspnoea and pleuritic affections, by hoarseness, cough, lassitude, and a continual chilli-

ness, with fever. On the whole, and in a great proportion of cases, it was so shaped as to be thought a species of malignant catarrh. Indeed, it proved fatal to many young persons, and also to aged people, almost to an alarming degree; in many others the disease lasted seven or nine days, with a furred tongue, or terminated in *rhynanche tonsilaris*, *emphysema*, and *vomica*. We have seen it, also, in many persons, prolonged into a chronic state of pain in the breast, until it produced an exanthematous disease, or an anomalous eruption all over the body.

This epidemic prevailed so universally, that scarcely an individual in any family has escaped its attack. Infants and children have been equally liable to it, exhibiting it under the shape, in many instances, of croup or of tracheal infarction. Patients who formerly laboured under hepatic or pulmonary complaints, while lying confined and under medical treatment, have no less participated in the general influence of this catarrhal fever. Hence, blood-letting has seldom been resorted to, except in cases of great influx of the blood to the head. Emetics did not answer a good purpose, and, at a strong dose, did excite but moderate puking. We, however, have fully relied on gentle diffusible stimuli, especially of aromatic infusions, or diaphoretics, alterative, or mercurial doses, repeated cathartics, pediluvium, and epispastics. When these means have been neglected, or sparingly used, the patients have invariably been exposed to the continuation of the complaint, or to wearisome relapses.

Diseases which are characterized by malignancy, seldom cause much alteration in the pulse, except that of a certain laxity of the arterial coat, which, by the pressure of the finger, totally suspends the feeling of a beat. This we have frequently observed in this catarrhal fever. Hence, blood-letting has seldom been resorted to, except in cases of great influx of the blood to the head. Emetics did not answer a good purpose, and, at a strong dose, did excite but moderate puking. We, however, have fully relied on gentle diffusible stimuli, especially of aromatic infusions, or diaphoretics, alterative, or mercurial doses, repeated cathartics, pediluvium, and epispastics. When these means have been neglected, or sparingly used, the patients have invariably been exposed to the continuation of the complaint, or to wearisome relapses.

The acrid mucus which was discharged from the nose, throat, and bronchiæ, caused a hot and unpleasant sensation in the organs, which it moistened; in a few instances we have seen that ichor incessantly expectorated, and

resembling a yellow or reddish limpid fluid. It was afterwards succeeded by a considerable discharge of tough, thick, and purulent matter.

Variola, (small-pox), varicella, (chicken-pox, &c.) have prevailed in the city and suburbs of New-York. The first has been attended with great mortality, and, by the number of its victims (about one hundred and ninety), it has certainly proved that vaccination is either much neglected, or not universally resorted to for prevention. Not a single instance of failure, however, has been heard of, that has been attended with fatal small-pox.

Of this loathsome disease, Sydenham has witnessed the great influence or agency of the atmospheric constitution, to propagate and extend its ravages, at different periods of time, with aggravated symptoms, which seemed to constitute various sorts of small-pox. (Vide Syd. by Rush, sec. iii. c. 1.) Hence, besides its casual introduction from abroad, the keeping of variolous matter by physicians, or other persons, even for practical use or experiments, is much to be deprecated, as an unavailing cause of danger. At this late period (January 30) we cannot foretel, amidst so large a population, how and when it will be extirpated.

Varicella, with equal steps, has proved epidemical among our children, bearing frequently equivocal characters of small-pox, even that of confluency, which we have witnessed. We hope it is subsiding. The poison which constitutes it, seems ephemeral; for after the short period of a few days its vesicular pustules may collapse, and be absorbed; the return of the matter into the system is not injurious to it, and, on the fifth day, the little patient is recovered, showing but a few scabby remnants on the skin. Although varicella is not attended with any danger, it is, however, like the small-pox, ushered in by a painful and laborious train of symptoms, which, with the sudden appearance of vascular eruption, led many persons, as Thomas says, to mistake it for variola; and this error has been the source of many reported failures of vaccination. On this subject, and on its improved practical means to be investigated, we should not hesitate to offer some important observations, which it is our province to notice. We prefer, however,

to wait for the report ordered by the Medical Society of the City of New-York on the causes of the prevalence of the small pox, and of the circulating reports of the failure of vaccination—which report is preparing by a committee of seven physicians appointed for that purpose.

Bills of Mortality of the City and County of New York, commencing July 1. and ending December 30, 1815: From the Annual Report of Interments, published by order of the Common Council.

	Consumption.	Small-pox.	Various Diseases.	Total.
July	29		132	161
August	63	2	180	245
September	46	3	183	232
October	43	8	177	228
November	54	18	105	177
December	56	62	161	279
	<hr/> 291	<hr/> 93	<hr/> 938	<hr/> 1322

An idea of the Analysis of Nature, &c. of M. C. S. RAFINESQUE.

M. C. S. Rafinesque, a philosopher and naturalist, member of several learned societies in Europe, and, particularly of the Royal Institute of Natural Sciences established at Naples, after having published, in 1814, in Palermo, (his residence for several years past,) three books, of which we shall give some account hereafter, and which were preparatory to works of greater magnitude and importance,* has, in the beginning of this year, and just before his departure for the United States of America, published a valuable work on natural history,

* The title of these works are—

1. Mirror of Sciences, or Cyclopedical Repository of Arts and Sciences. Two volumes. In Italian.

2. Fundamental Principles of Somiology, or the Laws of the Nomenclature and Classification of Animals and Plants. A pamphlet. In French.

3. Concise View of the Somiological Labours and Discoveries of C. S. Rafinesque, between 1800 and 1814. A pamphlet. In French.

in which the author proposes to establish a totally new and analytical method of natural history, especially in the botanical part, and sets forth a new nomenclature for the classes, orders, and families of animals and plants, which is meant merely as a plan of a larger one.

This work bears the following title—“*Analyse de la Nature, ou Tableau de l'Univers et des Corps organises,*” (a 12mo. vol. of 224 pages,) which means—“Analysis of Nature, or View of the Universe and of the Organized Bodies.” It was written in French, that language being now become, in Europe, nearly as classical as the Latin, particularly in natural history. It is divided in two parts—1. The View of the Universe. 2. The View of the Organized Bodies.

Twelve chapters are included in the former, the titles of which will convey an idea of their object—1. Man and Nature. 2. Cosmony, or Natural History. 3. Heavens and Astronomy. 4. The Earth, Geonomy, and Geognosy. 5. Atmology. 6. Hydrology. 7. Geology. 8. Somognosy, or the Knowledge of Bodies. 9. The Mineral, or inorganized Empire, and Mineralogy. 10. The Elements and Stochology. 11. The Chrystals and Chrystallogy. 12. Thoughts on the prospect of the Universe.

This part of the work is written in a didactic form; sometimes with deepness of thought or style, and always with a variety of new views and methods.

The view of the organized bodies comprehends twenty-four chapters; twenty are taken up each by one class; the 1st bears the title of the Vital Empire, or *Somology*; the 2d, the Animals, or Zoology; the 13th, the Vegetables, or Botany; and the last, Conclusion. This part is written in a technical form, full of particular views and strikingly analytical.

The author proposes that each kingdom be divided into three vice-kingdoms, and ten classes, founded on the most constant, improved, and striking characters these bodies afford, and each class into a separate number of orders, families, and genera, all of which must for ever bear a singular substantive Latin denomination.

The work proceeds to enumerate, in an analytical form, all the known genera of animals, (many of which

are new,) all arranged in their peculiar families, orders, and classes, which are characterized. We would give, with pleasure, a complete idea of this important part, but must delay it for want of room.

The vegetable kingdom follows, and is classed according to a method perfectly new, which keeps pace with the animal classification, and is quite as much founded on a deep study of the value of organs and affinities. We shall give the names and characters of each class, and the number of orders they include, with a generic example of each. The author has not given the characters of the families, nor enumerated all the genera belonging thereto, as he suspects that great many more families must be formed; but he promises soon to give a classification of all the known plants, under the title of *Distribution des Vegetaux*.

II. Kingdom. PHYTONIA. Plants. Botany.

2. Vice-kingdom. DICOTYLIA. Dicotyles. Dicotology. Stems vascular and fibrous, vases and fibres in concentric strata, surrounding a central pith.

1. Class. ELTROLY. Eltrogyne. Eltrology. Pistils free or unconnected, stamens never connected, with a peripetalous corolla. 15 orders. Ex. Gen. *Rosa*, *Cupressus*, *Sedum*, *Ranunculus*, *Ulmus*, *Vitis*, *Dionea*, *Alysum*, *Papaver*, *Ricinus*, *Drosera*, *Linum*, *Sida*, *Fumaria*, *Amorpha*, *Clethra*.

II. Class. MESOGYNIA. Mesogynes. Mesology. Pistils free or unconnected, stamens always connected, with a peripetalous corolla. 10 orders. Ex. Gen. *Asclepias*, *Salvia*, *Cuscuta*, *Spigelia*, *Utricularia*, *Veronica*, *Calli-carpa*, *Solanum*, *Kalmia*, *Primula*.

III. Class. ENDOGYNIA. Endogynes. Endology. A single pistil connected with the perigone, stamens always connected, with peripetalous corolla. 6 orders. Ex. Gen. *Samolus*, *Linnea*, *Viburnum*, *Eupatorium*, *Helianthus*, *Prenanthes*.

IV. Class. SYMPHOGYNIA. Symphogynes. Symphology. A single pistil, connected with the perigone, stamens never connected with a peripetalous corolla. 8 orders. Ex. Gen. *Lobelia*, *Vaccinium*, *Aralia*, *Sanicula*, *Mespilus*, *Cactus*, *Nyssa*, *Asarum*.

2. Vice-kingdom. MONOCOTYLIA. Monocotyles. Mo-

nocotology. Stems vascular and fibrous, vases and fibres fasciculated, pith scattered among them.

V. Class. ANGIOGYNIA. Angiogynes. *Angiology*. Flowers always regular, never spadiceous nor glumaceous, a pistil connected with the perigone. 6 orders Ex. Gen. *Stratiotes*, *Orchis*, *Ananas*, *Sisyrinchium*, *Ixia*, *Hypoxis*.

VI. Class. GYMNOGYNIA. Gymnogynes. *Gymnology*. Flowers always regular, never spadiceous nor glumaceous, one or more pistils unconnected with the perigone. 4 orders. Ex. Gen. *Lilium*, *Juncus*, *Trillium*, *Alisma*.

VII. Class. PHANEROGYNIA. Phanerogynes. *Phanerology*. Flowers spadiceous or glumaceous, or without perigone, but with visible pistils. 4 orders. Ex. Gen. *Chamerops*, *Orontium*, *Cyperus*, *Triticum*.

VIII. Class. CRYPTOGYNIA. Cryptogynes. *Cryptology*. Flowers without perigone, irregular, with invisible pistils or none. 4 orders. Ex. Gen. *Ophioglossum*, *Polypodium*, *Hypnum*, *Marchantia*.

3. Vice-kingdom. ACOTYLIA. Acotyles. *Acotology*. Without stems, cellular bodies deprived of fibres and pith, and with vases almost invisible.

IX. Class. MYCOSIA. Mushrooms. *Mycology*. Terrestrial bodies, seldom green. 6 orders. Ex. Gen. *Cladonia*, *Hysterium*, *Acinophora*, *Lycoperdon*, *Agaricus*, *Byssus*.

X. Class. ALGOSIA. Algues. *Algology*. Aquatic bodies, often green. 4 orders. Ex. Gen. *Conferca*, *Ceramium*, *Fucus*, *Physidrum*.

Total number 68 orders, which will probably include, by the author's reckoning, about 400 families, (325 are enumerated,) and about 3500 genera.

Lastly, the author thinks that the knowledge of animals and plants must be divided into, at least, nine parts, viz. organical, physiological, anatomical, chymical, medical, cresical, agronomical, geographical, and historical knowledge.

We think altogether that this work is well calculated to improve the science, and deserves to be better known and studied by those who cultivate the natural sciences.

CULTIVATION OF THE PEACH TREE.

To the Rev. W. G. ERNST, of Lebanon, Pennsylvania.
New-York, November 16, 1845.

My dear Friend and Brother,

In pursuance of our mutual agreement to communicate to each other whatever, in the course of investigation and experience, may present itself as interesting or worthy of notice, I submit the following. Your new situation will enable you to devote some practical attention to the subject.

You will recollect, that, during my residence in our native state, many of my recreative hours were devoted to the cultivation and improvement of various fruit trees. The peach tree, in particular, arrested my attention; and strict observation convinced me that its premature decay arose from the depredations of a *worm*, evidently the offspring of a *fly*. Besides, I made frequent inquiry among arborists, and persons whose occupation and experience enabled them to inform me correctly, and in no instance was my conviction shaken—it was confirmed.

Happily I received the annexed "account," &c. My treatment of the peach tree was dictated by this method, and the result, in every respect, was similar to that of Mr. Ellis' experiments. I am confident that, if this method would be generally adopted and applied, the peach, that delectable fruit, would again appear in luxuriant abundance. It should, also, be added, that I have perfectly recovered the *languishing* trees, and, by this mode, preserved them in fruit-yielding vigour, after destroying their ungrateful and dangerous tenants, the worms.

Since my removal to this city I have perused No. 4, vol. ii. of the Medical Repository, which contains some observations on peach trees, by Gilbert Aspinwall, Esq. and Dr. Felix Pascalis, one of the editors of that valuable work. The former gentleman thinks "that insects have nothing to do with the matter; but that the mischief arises from the farina or pollen of the flower vitiated by disease!" This opinion is also entertained by different gentlemen of this city and vicinity. However, if I mistake not, though it may be "grounded on an extensive survey of facts," it has not suggested a sin-

gle preventive or remedy, but the *cutting down of all the old trees and beginning new plantations*. On the other hand, I was not a little gratified to perceive that Dr. Pascalis, during a number of years, ascertained many confirmed facts, perfectly coincident with those that came under Mr. Ellis' and my own observation. The opinion, which is grounded on such facts, opens a more exhilarating prospect than Mr. Aspinwall's, and will abundantly remunerate those persons who may take the pains to test it.

Wishing you the happiest success to all your labours in the theological and scientific departments, I am

Your sincere and affectionate friend and brother,

F. G. SCHAEFFER

Account of a Method for preventing the Premature Decay of Fruit Trees. By JOHN ELLIS, of New-Jersey. From the *Transactions of the American Philosophical Society*.

The decay of peach trees is owing to a worm, which originates from a large fly, that resembles the common wasp. This fly perforates the bark and deposits an egg in the moist or sappy part of it. The most common place of perforation is at the surface of the earth, and, as soon as the worm is able to move, it descends into the earth, probably from an instinctive effort to avoid the winter's frost. This may be ascertained by observation, the track of the worm, from the seat of the egg, being visible at its beginning, and gradually increasing, in correspondence with the increasing size of the worm; its course is always downwards. The progress of the young worm is extremely slow, and, if the egg is deposited at any considerable distance above the surface of the earth, it is long before the worm reaches the ground. The worms are unable to bear the cold of winter, unless covered by the earth, and all that are above ground after frost are killed.

By this history of the origin, progress, and nature of the insect, we can explain the effects of my method, which is as follows:—In the spring, when the blossoms are out, clear away the dirt, so as to expose the root of the tree to the depth of three inches; surround the

tree with straw about three feet long, applied lengthwise, so that it may have a covering one inch thick, which extends to the bottom of the hole, the but-ends of the straw resting upon the ground at the bottom: bind this straw round the tree with three bands, one near the top, one at the middle, and the third at the surface of the earth; then fill up the hole at the root with earth, and press it closely around the straw. When the white frosts appear, the straw should be removed, and the tree should remain uncovered until the blossoms put out in the spring.

By this process the fly is prevented from depositing its egg within three feet of the root, and, although it may place the egg above that distance, the worm travels so slow, that it cannot reach the ground before frost, and, therefore, is killed before it is able to injure the tree.

The truth of this principle is proved by the following fact:—I practised this method with a large number of peach trees, and they flourished remarkably, without any appearance of injury from the worm for several years. I was then induced to discontinue the straw with about twenty of them. *All those which are without the straw have declined, while the others, which have had the straw, continue as vigorous as ever.*

Extract from the Report of the National Vaccine Establishment, dated London, May 25th, 1814.

“ The Board reports, that the public confidence in the efficacy of vaccination continues to extend through every part of the world, and the mortality from the small-pox to decrease in the same proportion. During the year 1813, the number of persons vaccinated at the nine stations appointed by this Board, was 4,274. The attention of the Board has been particularly directed to the distribution of the Vaccine Lymph, and 25,394 charges of it have been furnished to the public. The principal station has also served as a school for the practice of vaccination; and, since its first establishment, nearly 500 surgeons have been instructed in the best modes of per-

forming it, and have been enabled to introduce it in the most advantageous manner into the different parts of the British empire. In London, the deaths from small-pox have been 898, which is less than three-fourths of the mortality of the preceding year.

According to official communications from Edinburgh, Glasgow, Dublin, &c. it appears that the benefits of vaccination have continued to be diffused throughout the civilized world. The Governors of the Cape of Good-Hope and of Ceylon, by the humane regulations which they have adopted, have totally extinguished the small-pox in those settlements; and, by means of the salutary regulations which have been introduced into India, the frequency of this disease has been very much diminished.

The Board has been highly gratified by a letter from Sir G. Ousley, stating, that the sons and daughters of the Prince Royal of Persia, together with 14 or 1500 other Persians, had already been vaccinated, and that the practice was extending through the capital of that kingdom.

The failures of vaccination, which formerly occasioned so much alarm, are now become extremely rare, from the improved methods which have been adopted. Most of these failures appear to have arisen from the practice of vaccinating by a single puncture, and afterwards opening the vesicle, and taking a portion of the lymph for the purpose of propagating the infection. In one instance which had been thus treated, a fatal attack of the small-pox ensued. But in most of such cases, even when the small-pox actually occurred, the disease was so much mitigated as to be devoid of danger. These accidents may, however, be almost always prevented, by exciting two or more vesicles, and by carefully observing that one of them should pass completely through all the stages of the vaccine process, unopened and undisturbed. Whenever the slightest irregularity has occurred, the patient ought to be re-vaccinated for his security.

But all the accumulated proofs of the utility of vaccination have not yet occasioned its universal adoption; nor have the fatal results of small-pox inoculation led

to its being entirely relinquished. By far the most numerous, and all the eminent part of the medical profession, having abandoned this practice, some few of its members having only found the stronger motives for persisting in it, and for holding out to the poorer classes the fallacious pretence of performing the operation gratuitously; nor have arguments, example, or shame, prevailed on a certain class of persons to desist from a practice so pernicious; to which we cannot but attribute a great proportion of the mortality from small-pox, which still occurs in this metropolis, and which, in all probability, from the number of unregistered burials, exceeds the actual returns of the weekly bills by about one half. The small-pox has thus, by its continued existence in constant succession, become a much more destructive disease than the plague, which has occasionally visited this country; and it is to be lamented, that the regulations for the prevention of the promiscuous intercourse of the infected with society at large, which have at different times been so prudently adopted with respect to one of these diseases, cannot, in the existing state of the laws, be extended with equal facility to the other."

Eulogies on the Medical Character.

Sir William Blackstone, Vinerian Professor of Law in the University of Oxford, &c. in his introductory lecture on the study of the law, after recommending it to the nobility and gentry, to persons of rank and distinction, to persons of inferior rank, and to members of the learned professions, expresses himself thus in relation to physicians—"For gentlemen of the Faculty of Physic, I must frankly own, that I see no special reason why they, in particular, should apply themselves to the study of the law, unless, in common with other gentlemen, and to complete the character of general and extensive knowledge; a character which, beyond others, their profession has remarkably deserved. They will give me leave, however, to suggest, and that

not ludicrously, that it might frequently be of use to families, upon sudden emergencies, if the physician were acquainted with the doctrine of last wills and testaments, at least so far as relates to the formal part of their execution."

Samuel Johnson, L. L. D. the biographer of the more eminent English poets, in his life of Sir Samuel Garth, has these words:—"Whether what Temple says be true, that physicians have had more learning than the other faculties, I will not stay to inquire; but I believe every man has found in physicians great liberality and dignity of sentiment, very prompt effusion of benevolence, and willingness to exercise a lucrative art where there is no hope of lucre."

William Cobbett, the author of the *Weekly Register*, published in London, has written his opinions on the emigrations of British subjects to our parts of North-America. On the departure of the physicians of Great-Britain to the United States, he writes thus:—"For *medical* men there is always room, and always will be as long as people continue to die. The truth is, that, of the three *professions*, this is the best. I mean, it contains the best men, and the wisest and cleverest men. The priest and the lawyer may thrive by subserviency. Religion and law accommodate themselves to *times* and *politics*; but he who has a broken leg or an affection of the liver, thinks of nothing but the *skill* of the surgeon or physician that he employs. Besides, the very nature of the researches and the observations of medical men make them despise superstition. Hence it is, that we very rarely meet with one of them whose mind is not independent. These may safely go to a country, where the population is continually increasing, and where skill, joined to diligence, is sure to meet with due reward."

We hope the profession will always retain the high consideration thus procured by its worthy members.

Phosphorus internally used as a Tonic and Stimulant Remedy.

Monsieur D. Lobstein, of the Faculty of Medicine of Paris, has published an historical essay on the discovery of the physical and chemical properties of phosphorus, which is by him now classed among the articles of *materia medica*, with the doses, medical effects, and formulæ.

He attributes the unfortunate experiments formerly made of that substance in the human body, to the improper mode that was resorted to for its exhibition of pills, electuaries, &c. in which it could not be sufficiently divided or diluted. But its solution in vitrolie æther, with the addition of some distilled aromatic oil, is an equally safe and convenient medicine, to be taken at the doze of a few drops at first, to be gradually augmented as the circumstances may require. As a powerful tonic, it becomes eminently useful in asthenic diseases, in which it is desirable to diffuse a momentary, but intense stimulating action. He mentions dangerous cases of typhus and other asthenic fevers, thus radically cured by the use of phosphorus. His *reviewers* express a regret that the association of that ingredient with different auxiliaries, should make it difficult to determine upon its true efficacy. They, however, think the subject highly interesting, and well deserving further experiments.—*Journal de Medicine de Paris, May, 1815.*

New-York Pharmacopœia.

The physicians and surgeons of the New-York Hospital have completed a Pharmacopœia, for the use of that Institution. This collection of practical information is intended particularly to govern the prescriptions and directions for the patients there. It will be a manual of instruction for the students attending the Clinical Wards. It will probably be deemed worthy of a place on the table of the apothecary, and in the library of the practitioner. It may be expected to appear from the press of Messrs. Collins & Co. within a few weeks.

Transactions of the Literary and Philosophical Society of New-York.

A quarto volume of the Transactions of the New-York Literary and Philosophical Society has lately been published. It contains a learned and copious introductory discourse, by the president, Dewitt Clinton, LL. D.—a Memoir on Comets, by the corresponding secretary, Hugh Williamson, M. D. and LL. D.—a Traet on the Laws of Contagion, and the application thereof to Contagious Diseases, by David Hosack, M. D. one of the vice-presidents—Directions for making and registering Meteorological Observations, by John Griscom, Esq. a counsellor of the society—an Analysis of the Mineral Waters at Schooley's Mountain, in New-Jersey, by professor William J. Mac Neven, M. D.—Cases of Morbid Anatomy, with plates, by John W. Francis, M. D. one of the recording secretaries. This volume also contains a Memoir on the North-American Earthquakes of 1811, 1812, and 1813, and the cotemporaneous commotions in other parts of the world, by Samuel L. Mitchill; and the Description and Classification of nearly one hundred and seventy species of Fish, found in and around New-York, by the same. This ichthyological paper is illustrated, by Dr. Mitchill, with the figures of sixty species of fishes; the principal part of which are supposed to be unknown to naturalists; and which may serve to make inquirers somewhat better acquainted with the variety and abundance found in the market of New-York. In this interesting publication, likewise, will be found, a letter of Dr. Clinton to Dr. Mitchill, containing remarks on the fishes of the western waters of the State of New-York; and a letter from James Mease, M. D. to Dr. Hosack, concerning the history, haunts, and manners of the Rock-fish, Striped Basse or Streaked Perch, of the United States.

Stevens' Translation of Boyer.

The first volume of Baron Boyer's treatise on Surgical Diseases, and the operations suited to them, translated

By Alexander H. Stevens, M. D. &c. has made its appearance, in a handsome octavo, from the press of Messrs. T. & J. Swords. Dr. S. has added considerable new matter, in about eighteen notes, in the form of an appendix. These articles will exceedingly enhance the value of the publication to the American reader, who is apprised of the eminent surgical qualifications of the translator, and of his perfect acquaintance with French literature.

*List of New Publications received at the Office of the
Medical Repository.*

1. An Inaugural Dissertation on Permanent Strictures in the Urethra. By James C. Bliss. Troy. 1815.
2. A Letter from Silvanus Miller, to Dewitt Clinton, LL. D. on the Fossil Bones of the Mammoth, discovered in the State of New-York, &c. New-York. 1815.
3. Prospectus of Historical and Geographical Tracts, with maps, on Louisiana. By William Darby and Lewis Bringier.
4. An Inaugural Dissertation on the Diseases of Old Age, as connected with a Plethoric State of the System. By John Scudder, A. M.
5. On the Diuretic Properties of the *Pyrola Umbellata*. By W. Somerville, M. D. &c.
6. Memorial on the Natural, Political, and Civil State of the Province of Cohauila, by Miguel Ramos de Arispe.
7. Catalogus Collegii Columbiani Neo-Eboracensis, &c. 1815.
8. Conjectural Inquiry into the Relative Influence of the Mind and Stomach; an inaugural dissertation. By Elias Marks.
9. Annual Address on the Theory of Agriculture, delivered, by appointment, before the Society for the Promotion of Useful Arts, at the Capitol in the City of Albany, February 14, 1815. By Thomas C. Brownell, Professor of Rhetorick and Chemistry, &c.

10. *Observations de Medicine et de Chirurgi*, par Abel Brandin, D. M. Chirurgien Major, &c. 4to. Paris.
11. *Reflexiones sobre alguns dos Meios Propostos*, &c. par la Cidade do Rio Janeiro. Par ordem de S. A. R.
12. *Reduction of all the Genera of Plants contained in the Catalogus Plantarum Americæ Septentrionalis of the late Dr. Muhlenberg, to the Natural Families of Mr. De Jussieu's System.* Philadelphia. 1715.
13. Address of Thomas Melville, jun. Esq. delivered before the Berkshire County Society for the Promotion of Agriculture and Manufactures, at Pittsfield, October 3, 1815.
14. *Analyse de la Nature, ou Tableau de l'Univers, et des corps organisés.* Par C. S. Rafinesque, Esq. Palermo.
15. *Precis des de couvertes Zoologiques et Botaniques*, de C. S Rafinesque, Esq.
16. *Recollections of Dr. Rush.* By Dr. Letson.
17. *The Good Samaritan: containing directions to cure burns, scalds, &c.* By R. de Jancourt. Fishkill. 1815.
18. Communication from the President of the American Antiquarian Society to the members, October 24, 1815.
19. *A Short Sketch of Gillespie's Improvements in Distillation.*
20. *A Short Account of the Origin of Steam-Boats.* By W. Thornton.
21. *Observations on the Rhode-Island Coal.* &c.
22. *A New and Compendious View of the Solar System; exhibiting the sun in the centre, and the primary planets, as situated on the 26th December, 1814, &c. (on a large sheet.)* By Mr. Dutton.
23. *Memoire sur les combinaisons de l'iode dans l'eau de la mer et dans les plantes qui produisent la Soude de Varecks, &c.* Par M. Gaultier de Claubry.
24. *Du Typhus d'Amerique, ou Fievre Jaune.* Par Victor Bally, D. M. of the Faculty of Paris. 1815.
25. *Considerations Generales sur les plaies d'armes a feu, (an inaugural essay).* Par A. F. Pepin, Docteur en Chirurgie, &c. 4to. Paris. 1814.
26. *Recherches sur la Prolongation de la vie humaine, &c.* Par M. Jules Ruceo, D. M. 8vo. Paris. 1812.